

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: burdick@interval.com (Wayne Burdick)
Subject: [7039] 40-9er power drop w/1K resistors
Message-ID: <v02130507ad945b35db5c@[199.170.106.28]>

Paul, try resistors > 1K across the driver choke to find one that kills the oscillation but not the power.

For a better solution than resistors, use FT37-43 toroid cores for both the driver and final chokes. Anything from 8 to 12 turns on each ought to do it--it isn't real critical. The rule of thumb is that the inductive reactance of the choke should be 10 times the collector impedance of the stage. By this logic, the driver choke should have more turns, but my guess is that it won't make much difference. Experiment!

I finally received a rev. B 40-9er board myself, and Doug Hendricks did an excellent job. He and I both learned a few things about placement of RF chokes, though! The close proximity of the driver and final chokes may be the cause of the oscillation, and would explain why switching to toroids would cure it.

One thing I haven't looked at is whether you could keep the chokes as they are, but simply relocate them as far apart as possible on the PC board. In other words, tack solder them on--don't use the existing holes. Anyone try this?

73,
Wayne
N6KR

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Doug Hendricks <ki6ds@telis.org>
Subject: [7009] 49er Mod Compendium (LONG)
Message-ID: <316DF47E.7111@telis.org>

Mods for the 49er

The 49er 40 meter direct conversion transceiver was designed by Wayne Burdick, N6KR as a platform or framework for the building contest at the ARCI Annual Meeting at Dayton. It was never intended to be a finished product, but was designed as a starting point for experimentation and learning. It was successful beyond our wildest dreams. Here is a collection of mods that were sent to me by the various authors. They are presented here so that you may share in the information discovered by

our members. Permission is granted to reprint this information in any club journal or newsletter provided that credit is given to QRPP and the various authors, and that the newsletter or publication is nonprofit. No one may reprint this for profit. If you reprint it, credit it to QRPP, June 1996. Thus, for the first time ever, I am previewing an article on the internet.

Debugging the 49er Receiver

by Ori Mizrahi, AC6AN

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The 49er is simple enough to write almost a complete test procedure, so here it is:

Debugging the 49er Receiver

The debug procedure for the receiver involves going through the schematic and checking the RX signal path from the inputs of the LM380 backwards. Listen to it and touch the appropriate pins with some wire - a resistor lead works just fine. If you can hear some "scratching" - the signal path is most likely OK from this point to the headphones.

Before running this test, let's check the obvious first:

- * Are the headphones OK?
 - * Are they compatible with the socket in use?

If this is fine, proceed with electrical debug. First check all the supply voltages:

- * LM380 pin 7 = 9V (depends on battery or supply in use)
- * NE602 pin 8 = 4.7-5.3V

Check the ground connections with an ohmmeter to the supply ground, no more than a fraction of an ohm is acceptable:

- * LM380 pins 2,4,5
- * NE602 pin 3

If you have another receiver then this is an easy step: NE602 Oscillator: oscillator circuit defective? "Sniff" the oscillator with another receiver: tune between 7.035-7.045 with a short wire as an antenna for the other receiver very close to the (powered) 40-9er board. If nothing is heard - debug the oscillator circuit.

Next follow the receive signal path, using the procedure described above, in this exact order:

- | | |
|-------------------|--|
| * Test point | What to do if no sound |
| 1. LM380 pin 3 | Check the LM380 supply, pin connections, etc.
Possible cause: bad LM380? |
| 2. RFC2-C9 | Check across RFC2 with an ohmmeter, a few hundred ohms is acceptable - Possible cause: bad RFC2? |
| 3. Q1(drain)-C9 | Possible cause: bad C9? |
| 4. NE602 pin 4 | Check pins of Q1, check voltage on gate of Q1 in RX |
| 5. NE602 pins 6,7 | Oscillator circuit defective? Skip this step if you already verified the oscillator is working. |
| 6. NE602 pin 1 | Check D1 for short, some short between ANT and pin 1, if all OK - bad NE602? |
| 7. ANT | RX ANT not connected to this point? Bad R1? |

If all the above looks fine, you have to deal with the worst problems:

- * NE602 oscillates at VHF frequencies
- * Some intermittent (Good Luck!)
- * Bad solder joint - hope you didn't build it tight and "ugly" like me (took some time to find those fine shorts) 73 DE ORI AC6AN

LM380 Audio Boost Mod

Paul Harden, NA5N

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Here is the easy mod to boost the audio out of the LM380 significantly. Just breadboarded it up and it works great. 3 parts, and I know you can fit them in your Sucrets box. I would really recommend making it a permanent addition to the 49er. Well worth the extra 2-3 components.

Here is the positive feedback modification for the 40-9er to boost the audio output from the LM380 ... breadboarded and tested only moments ago. It works, and works great. Measurements based on my 14-pin LM380, but should be virtually identical to the 8-pin LM380.

MODIFICATION STEPS FOR THE 49er:

1. Remove power (hey, all instructions always start with that one. You don't wanna get knocked on your butt from that 9v battery!)
2. Cut trace on LM380 to isolate pin 2 (+IN) from ground.
3. Solder 15K resistor on LM380 from pin 2 to pin 4 or 5 (ground).
4. Solder 1Meg resistor from (-) side of C13 to LM380 pin 2.
5. Solder .001 cap across the 15K resistor, or from pin 2 to ground.
6. Apply power; there should be a very noticeable increase in audio gain. I did not try different values for the feedback resistors. If you roll your own, make the resistor from pin 2 to ground to be .015 times the feedback resistor ... or, the same ratio as above.

The cap from pin 2 to ground prevents audio oscillation and can be .001 to .1 range. Frankly, my sloppy breadboard of the above didn't need the cap, but it should be added as a precaution anyway.

WITHOUT adding the 200 gain positive feedback mod, here's what I got on the LM380, wired similar to the 40-9er:

GAIN PROFILE with a 9V battery

Where Vin=input sine wave, p-p

Vout=LM380 output, p-p with 8-ohm speaker as load

Av=voltage gain

Gain(dB)=20logAv

Vin	Vout	Av	Gain (dB)	
10mv	400mv		40	32
20	850		42	32
30	1500mv	50		34
40	1800	45		33
50mv	2200mv		44	33
60	2100		35	31 Gain compression starts
70	2000		29	29

80	2000	25	28
100mv	2000	20	26

FREQUENCY RESPONSE

Frequency response measured with test $V_{in}=22\text{mV(p-p)}$ in for $V_{out}=1000\text{mV}$ at 1 KHz for reference.

Freq.	A_v	Gain(dB)
10Hz	31.8	30dB
20Hz	38.6	32
100Hz	45.5	33
300Hz	45.5	33
500Hz	45.5	33

Test signal applied to -INPUT,+INPUT grounded (40-9er configuration)

1KHz	45.5	33
3KHz	54.5	35
5KHz	52.0	34
10KHz	50.0	34
20KHz	50.0	34
100KHz	50.0	34dB

Pretty darn flat from 20Hz to 100KHz DC Current draw on the LM380 (14-pin version) at 9v was 8.5mA. Note that with a 9v battery, the stated VOLTAGE gain of 50 is actually quite close. I was at first afraid that was acheivable only at +12v.

SUMMARY: On both headphones and speaker, kicking in the feedback circuit makes the audio sound 2-3 times louder. I could hear audio in the earphones with V_{in} down to 4mV. If it were CW, I could have copied it. It is a 3 component modification, which can be added on the circuit side of the board, takes no extra board space, and pretty easy to do.

Try it, have fun, work somebody with it, and let us know how it went. I think we QRPers are the first human beings to actually employ the positive feedback design from the LM380 application notes AN-69.

72, Paul NA5N

40-9er history and Comments

by Wayne Burdick, N6KR

burdick@interval.com

Hi folks, the history of the 40-9er is approximately this:

Early 1995: I saw/heard some of the Pixie transceivers that people had built last year, and thought much better performance would be possible with just a few more parts.

Late 1995: Doug found some 7.040 crystals at the swap meet. He needed a rig designed to help use them up.

These events left me no choice but to do the 40-9er. Since there were so few parts (about 1/4 as many as a NorCal 40A, for example), I figured it was a good opportunity to design the rig around a 9V supply voltage. Then you could put it into a very small box. Doug did a nice PCB layout to achieve this.

Some things to keep in mind if you build one:

* The limited VXO range has to do with how far you can pull an NE602 oscillator without having it stop. I used an RF choke, but you can increase the pull with a large toroid (like 60 turns or more on a T68-2 or T68-6). But be careful at the low end of your VXO trimmer cap: if the capacitance nears zero, it may stop oscillating (especially when you transmit, which loads the crystal further).

* That 1/2-watt output will drain a regular 9V battery pretty fast, so consider using an alkaline or better yet a lithium battery (available from Mouser). A lithium battery costs twice as much as an alkaline, but you'll get something like 60 hours of operation!

* To keep parts count low, I used an LM380, and only a single-ended connection between that and the product detector (an NE602). You could increase the audio output quite a bit by adding a second JFET and going to differential coupling between the 602 and 386. As it stands there is enough audio to drive headphones to a reasonable volume in a quiet space.

* I'm running everything except the final amplifier off of 5V so that receiver performance and frequency stability will be good down to 6.5V or so. To save a few more milliamps and allow the rig to run all the way to 5.1V, you could substitute an LP2950-5.0 low-dropout regulator for the 78L05.

I worked Michigan (2000 miles) on mine. Have fun! 73, Wayne N6KR

Sub the LM386 for the LM380 in the 49er
by Wayne Burdick, N6KR
burdick@interval.com

The 40-9er uses an LM380N-8 to minimize parts count, but if you can't find one, you can easily modify the PC board to use an LM386 instead.

1. Cut all of the traces running to pins 5, 6, and 7. You can use an exact-o knife for this.
2. Reconnect the trace(s) that went to pin 7 to pin 6. Use a very short piece of bare copper wire.
3. Similarly, reconnect the trace(s) that went to pin 6 to pin 5.
4. Obtain a 100 to 180 ohm resistor and a 2 to 10uF capacitor.
5. Connect the (-) lead of the capacitor to one lead of the resistor (keep this and other leads short). Connect the (+) lead of the capacitor to the pin 1 pad of the IC. Connect the free end of the resistor to pin 8.

That's it. The reason step 5 is necessary is that the 386 has only 26dB gain with no external components, while the 380 has 34dB gain (fixed). By adding the R and C in series between pins 1 and 8, you'll make up the difference. In fact, you can make the R smaller or larger to change the gain as needed. Making R a short will result in a gain of 46dB, which would be too much for the 40-9er board and cause instability.

Also keep in mind that you can convert the single-ended connection from the '602 to the '386 into a balanced configuration to improve gain and stability, and possibly improve the muting characteristics. If you want to do this, look at the NorCal 40 schematic. The main difference is that the NorCal 40 doesn't use the 82mH inductor. You should use two of the inductors, one in each leg, to retain the low-pass filtering

feature of the 40-9er.

Looking at the 40-9er schematic, it occurs to me that a bypass cap might be helpful from pin 8 to ground on the LM380 (or pin 7 to ground if you're using an LM386 instead). The cap can be anything from 2 to 100uF. Negative end goes to ground, naturally. The audio output isn't high enough to make the bypass cap a necessity, but you may want to try it if you think the audio is distorted on loud signals.

Also, I forgot to mention that the LM386 has one limitation: the supply voltage should be 12V or less for the standard LM386N-1. You can of course use the LM386N-4 instead, which allows for up to 22V. But voltages above 12V are not recommended for the 40-9er anyway unless you heatsink the final amp adequately.
72, Wayne, N6KR

Putting the 49er in an Altoids Case
by Stan Wilson, AK0B

Yes it can be done. Use a RS type RCA phone plug for the antenna, Use the RS 2.5 mm jacks for audio and key. Close the case and layout the holes. Then remove the lid for drilling. When you close the lid it will just touch the jack hardware whisker close.

Use 1/32 plastic sheet (I cut mine to the same size as the PC board) for an insulator under the assembled board. I installed the jacks on the ends. RF on left and other two on right. I installed a 0.1 molex terminal for the battery on the pc board. The jacks will have to go toward the rear of the box.

Space the two (audio and key) jacks about 3/8" apart. I did 1/4 and that is too close for most RS type 2.5 plgs. You will have about 1/32 spacing above the componets on the PC board when closed.

Back up the thin case when you drill it out. The thin metal can tear if you do not. I played with it about a week before I drill any holes.
72 de Stan AK0B

My Mods to the 49er
by Larry East, W1HUE/7

I increased the size of the bypass caps in the emitter circuit of the driver transistor and on the +V side of the decoupling choke to the final transistor from 0.01 to 0.1 uF. At 7 MHz, the impedance of a 0.01 cap is about 2.3 Ohms _ seems to me that 0.1 uF (0.23 Ohms) is a better choice for a bypass.

I found that changing the choke in the final collector from 15 uH to 22 uH increased the output by 30%. With 15 uH, output is 0.70W; with 22 uH, it is 1.0W. I tried an 18 uH choke and that also gave about 0.7W. These measurements were made with 13.2V on the collector of the 2N4427 final and 6V (rather than 5V) to the NE602.

I found the source of the low audio _ a bad solder connection! I'm using small two-pin "strip sockets" for the antenna, etc. connections on the board, and the one for the speaker (? get serious; this thing

won't drive a speaker!) output had a bad ground connection _ it finally opened entirely, which is how I found it! Much better now, but still not ear-splitting.

I changed the order of the choke and trimmer cap in the VX0 so that the side of the trimmer connected to the "tweak screw" is grounded. Much better _ a metal tipped alignment tool can now be used to change the VX0 frequency without screwing up the oscillator. This seemed like an obvious oversight in the original design, and according to a recent post from Wayne it was.

An interesting side effect: after this change, the VX0 range decreased from 5.1 kHz to 4.8 kHz. The same choke and trimmer cap (and crystal, of course) were used in both cases _ change in stray circuit capacity perhaps?

The simple mod involving feedback around the LM380 suggested by Paul, NA5N, sounds like it might be worth while _ I'll check it out. I have the applications handbook he mentioned at home, so I'll look it up. By the way _ the potential problem mentioned by Paul concerning no load on the audio amp output can be circumvented by connecting a 150 to 270 Ohm resistor from the audio output decoupling cap to ground (i.e., across the phone jack). This also eliminates the loud "pop" that occurs (with the unmodified circuit) when headphones are connected after power is applied to the rig (due to the output cap discharging thru the headphones). I routinely do this on all my rigs.

I am a firm believer in the "KISS Principle" (Keep It Simple, Stupid!), so it is not my intent to turn this little rig into a "Monster". There are a lot of additions one could make, like a series resonant circuit at the receiver input to reduce shortwave broadcast feed-thru (I'm picking up some religious station at times, don't know what frequency it's on), balanced input to the audio amp, etc., but I don't intend to do all this since this is REALLY a "toy rig" as far as I am concerned and it is interesting to see what CAN be done with a minimum number of parts. Component changes to optimize performance, on the other hand, I just can't resist doing...
72 and happy tinkering _ Larry W1HUE/7

Improved audio filtering for the 40-9er
by Ori Mizrahi, AC6AN
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I followed the LM-380 positive feedback scheme for the 40-9er and it does work. The one thing I wasn't happy with was the poor audio filtering. The setup resulted in a stronger audio, i.e. amplified QRM...

Of course this was never intended to be anything more than an easy-to-build radio, and no complaints - like most anybody else - I love it!

Once I started tweaking the audio amp it dawned on me that we can revert to the LM-386 and with roughly the same circuit complexity achieve better filtering and lower power too.

No major development, just copied from the NC40A, sort of. I don't have the Norcal PCB, so can't advise on that, but it should be

easily done on that PCB too. N6KR described most of the basic mod earlier, I added the bypass cap from pin 7 and the RC between pins 1 and 5.

The full LM-386 circuit goes like this:

- * Pins 2,4 to Ground.
- * Pin 6 to +Vcc (similar to LM-380 pin 7)
- * Pin 3 is the input, connected to RFC2/C10 (same as LM-380)
- * Pin 5 is the output, connected to C13(+), same as LM-380 pin 6

The additional circuitry:

- * 10 microfarad cap between pin 1 (+ side) and pin 8 (- side)
- * 0.1 microfarad (or bigger) from pin 7 to Ground
- * 1800 ohm resistor in series with 0.022 microfarad cap between pins 1 and 5

This is audio circuitry, so somewhat longer wires can be used, although it's always a good idea to keep them short due to the high gain. The result:

Calculated about -8dB for 3KHz vs. 500 Hz, sounds pretty much as predicted. It's absolutely an improvement, but -8dB are not exactly a "brick wall", especially if your tiny earphones favor the squeaky part of the audio spectrum. So, next we'll try a low-power dual-opamp active filter with some gain to cut some parts from the LM-386 circuit. Now that we saved a few mA at the audio stage, can afford some extra current somewhere else! 73 DE ORI AC6AN

Power "Switch" for the 49er
by Ori Mizrahi, AC6AN
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I put the 49er in a box and had to worry about the inconvenience of disconnecting the battery. I talked with a Jeff KD6MNP and he was "surprised" I don't use what he considers a natural power switch.

This is taking advantage of a STEREO 1/8" socket and the fact that a MONO plug shorts the middle contact to the ground (not the tip). Wire the earphone socket in the following manner:

- * TIP - audio out (from C13)
- * MIDDLE - BATTERY (-) SIDE
- * GROUND - PCB Ground

Jeff also warned to plug in the earphones BEFORE they're in your ears. I'll appreciate if anybody let me know what happens otherwise!!! 73 DE ORI AC6AN

Simple Power Supply Instability Fix
by Ori Mizrahi, AC6AN

One potential *giant* source of instability is the battery! You eliminate this problem with a bypass cap across the supply.

I added a 0.1 cap in parallel to C12, probably a good thing to do in general. So far the radio is totally immune to supply noise. I tried NiCad, Alkaline, a regulated linear supply and a laptop switcher, all with the same good results. Mine is built on a proto board with a ground plane, so ground loops are not an issue. 73 DE ORI AC6AN

40-9er Correction: Receiver Input Tuned Circuit

by Wayne Burdick, N6KR

(burdick@interval.com)

If you think your 40-9er's receiver is too weak, it may be that C20 is too small. (I considered changing it from 150 to 180 pF but missed the publication deadline.) Rob Capon sent me the message below, confirming that on some 40-9er's, an extra cap paralleled across C20 may get the tuned circuit into the proper range. Which brings up the following question:

Q: Why does the 40-9er need so much capacitance in that tuned circuit, when the NorCal 40 and some other designs use the trimmer by itself, with a much larger inductor?

A: The reason is that the 40-9er is direct conversion, making it much more likely that hum and A.M. broadcast stations picked up at pin 1 of the NE602 will make it to the AF amp. By using a much larger capacitance here, the Q of the circuit is improved, and the NE602 "hears" less interference. I haven't quantified the effect, but I noticed that with the usual small amount of capacitance, things get much worse. The tradeoff is that with C2 being a smaller part of the total capacitance, the value of C20 becomes more critical.

Another way to achieve the same thing is to tap down on the inductor on the '602 side, but hey, that requires a toroid and the 40-9er was supposed to be toroid-less. 73, Wayne, N6KR

Case for the 49er

Robert Capon,

RobCap@aol.com

I have built my 49er, which I'm enjoying very much. Clearly it is not a rig that's going to see lots of air time, but definitely worth having some novelty QSO's.

Radio Shack sells a very nice beige plastic case for \$5.25 that works great. The 49'er board fits neatly into the main compartment (after I notched the two lower corners, that-is), and there is a small compartment designed to house a 9-volt battery. The case comes with a 9-volt battery clip as well.

The box has a removable side panel, which is where I attached four components: antenna jack, key jack, phones jack, and on/off switch. Because the little panel slips out, wiring is a breeze.

So, if you don't mind the total radio cost escalating from \$25 to \$30, you might want to take a look at this case. (By the way, I had looked at a Sucrets case, but the battery would have to be external. Decided the Sucrets case was too spartan.) 73, Rob

The Altoid Oreo 40-9er

by Floyd Smithberg, NQ7X

I call my 49er the Altoid-Oreo 40-9er.....Battery wouldn't fit in case so cut about 1/8" off the right end of pcb at and rounded corners

on opposite end. Bat now lies flat nicely in case. I used the usual snap connector with loose plastic cover removed and the terminals covered with non-corrosive RTV and unplug battery and put back in case reversed (disconnected) when not in use. I put piece of plastic tape inside the case to prevent the terminals shorting to case when bat not in use.

Then, in working on mods got tired of having to unsolder and disconnect jacks etc to remove from case so cut out bottom of Altoid box only under pcb, leaving the part under the battery and about 1/4 inch around the other 3 sides. Used hand nibbler, scissors, files etc. Used only one 4-40 to hold the board and single sided tape to space the board from the bottom of the case on the end opposite the battery.

Now, how to cover the bottom? Just take another Altoid box lid and snap it on...voila, an Altoid Oreo. Now you have a typical NorCal rigboth sides available for service or show and tell!

72, Floyd NQ7X Phoenix ScQRPion Club

40-9er Alignment and Output Power

by Ori Mizrahi, AC6AN

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The instructions with the kit tell you to peak C2 for max signal on receive. I found that there is quite a wide range that the reception is satisfactory. I also found that C2 has a major impact on the output stage loading, when R1 is at max resistance (where I suspect most people will leave it). It also tunes very sharply in this regard. The alignment procedure should include output power peaking, not only receive signal peaking. If you wonder why nobody hears you, check this first!!!

When the RF GAIN is set to a max signal, R1 is at max resistance of 1K or 2K, depending on what was supplied with the kit, and can be ignored for this analysis. If the parallel L/C circuit is NOT resonant, it presents a low impedance to ground at any frequency OFF resonance, possibly lower than the 50 ohm at the antenna terminals. The RF then favors this path to ground through C20, C2, RFC1 or C7-D1.

Notice the differences between receive and transmit. On receive, D1 is floating and C7 is terminated at the high impedance input of the NE602, thus it is not a factor in the resonance of that circuit on receive.

On transmit, D1 shorts C7 to ground, making it a part of this circuit. That is the exact detail that needs more attention. Tuning the circuit for max receive signal makes it resonate at the operating frequency with C7 essentially NOT in the circuit. That same circuit is NOT resonant on transmit, when C7 becomes a part of it, and it forms a low impedance path for the transmit signal to go to ground.

Fortunately, the receive peaking is fairly wide range. If you align C2 for max transmit output, the reception is acceptable, but not necessarily the other way around.

The alignment step should be:

- * Connect a 50 ohm dummy load to your antenna terminal through a power meter. An SWR meter in the FORWARD position can do the job too, as it shows the peak relative power.

* Key the transmitter and change C2 until peak power is observed.
JOB COMPLETE!
73 DE ORI AC6AN

Choke Your 40-9er, Now!
by Wayne Burdick, N6KR

Based on a couple of messages I received I now can say with some confidence that the rev. B 40-9er board, at least, must have the driver and PA RF chokes in too close proximity. This is what's probably causing the reported "Squeal" (oscillation) on transmit.

There are two cures, either of which seems to work. I recommend that everyone make mod 1 or 2, even if you don't know that your unit is oscillating, and even if you have a rev. A board. This may also improve 2nd harmonic attenuation that was discussed earlier on the list.

1. Put a 1K resistor across each choke (the chokes in the collector leads of the driver and final transistors). If 1K doesn't do it, try 470 ohms on the PA choke.

_ OR _

2. Replace the PA choke with 8 to 10 turns enamel wire (nearly any size will do) on a high-permeability toroid core, such as an FT37-43 or FT37-50. If necessary, do the same for the driver choke (shouldn't be necessary).

Here's what I think is happening, although I've never seen in person the rev. B board or a unit with oscillation. The two chokes are fairly close together on the PC board, so it's almost like they're two halves of a bad transformer. With enough coupling between the two, bingo you've got an oscillator.

Either the 1K resistor or the toroid will drastically reduce the Q of these chokes, so that they can't "talk" so effectively at the frequency of oscillation.

Neither choke is critical. The idea is to suppress RF while passing DC. The rule of thumb is usually that the choke's inductive reactance should be at least 10 times the intended collector impedance, but it can be much more than that as long as there are no undesirable resonances or DC voltage drop or inter-winding capacitance. This is why the FT37-43 core is so useful here: it won't resonate at 7MHz no matter what you do, and the permeability is so high that you only need a few turns, hence the low DC resistance of the winding and the low inter-winding capacitance.

42uH (10 turns on an FT37-43) is plenty for both driver and final. I used 1mH at the driver to hopefully make it less likely to have any unwanted self-resonances. But I couldn't use 1mH at the PA because that particular choke has so much internal resistance that it would have a significant DC voltage drop. The idea was to use no toroids, but in hindsight I should have put swamping resistors on the board just to be safe since I wasn't the one laying out the PC board. 73, Wayne, N6KR

40-9er Self Oscillation Fix
by James L. Jendro, K8WVG

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I now have my Rev. B 40-9er up and running without self-oscillations on xmit at 9v. I don't have a clean way to measure power output at home, will have to wait till I can use a 'scope at work. Anyway, this is the "cure" for my rig...

1) Bypassed the 5v regulator with .01 uf on input and output side as well as a 10uf tantalum the output side. => Self oscillations still there.
2) Changed .01 uf V+ bypass on driver and final to .1 uf. => Self oscillations still there.

3) Added 1K resistor in parallel with the final's choke. => Bingo! Reducing the Q seems to have done the trick. If I notice any more self-oscillation I'll try the same thing on the driver's choke. Now, for that first QSO... Thanks to Wayne and Doug for the info/help/design.
73, Les K8WVG

40-9er "Tweaks" and Tips

by Larry East, W1HUE/7

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1. Change C11 and C19 to 0.1 uF for better RF bypassing (original schematic shows these as 0.01 uF).
2. A 78L06 can be used in place of a 78L05 for a little more "oomph" from the NE602 and still allow operation from a (reasonably fresh) 9V battery.
3. Add a 0.1 to 1.0 uF cap between the output of the 78L05 (or 06) regulator to ground; these critters will sometimes oscillate when their output is not bypassed.
4. If you plan to use an AC power supply, add a 1 to 10 uF cap from pin 8 of the LM380 to ground to reduce power supply hum and noise. (4.7 uF or so should completely eliminate any power supply hum unless the supply is very poorly filtered.)
5. A 2N4427 or a 2N3053 (available from Radio Shack) can be used for Q3 (the final amplifier) in place of a 2N3866. A 2N3553 or 2SC799 will probably give a little more output, however.
6. I found an easy way to keep the oscillator output from dropping off drastically at the high-end of the tuning range: add a 4-6pF cap from the "bottom" of the xtal directly to ground. In other words, shunt the L/C series network that is connected from the xtal to ground with a 4-6pF cap (small ceramic type is OK). This keeps the oscillator output from dropping at the low capacitance end of the tuning cap without significantly reducing the tuning range. It does reduce the high-end of the range by 0.2 - 0.3 kHz, but this is less than the reduction that would occur (about 1kHz) if the same size cap is shunted directly across the tuning trimmer (assumed to have the recommend 9-50pF range) and it seems to have a greater effect on oscillator output. Its only one more part...

Your results may vary, but 5pF worked for me (3pF did not keep the oscillator output from dropping). If the low-end of your tuning cap is less than 8-10pF, then a larger capacitor may be required.

72, Larry W1HUE/7

40-9er success!

by Mike Hagale, AC6JA

AC6JA@aol.com

I just finished building the 40-9er and packaging it with the KC-1 keyer. I have made three contacts already, Turlock, Death Valley, and San Jose, Ca. from my qth in Foster City, Ca. The rig seems to put out almost 1 Watt when running off my Radio Shack 2.5 amp regulated power supply at close to 15 volts. It sure takes some getting used to listening to a direct conversion receiver after being used to the Wilderness 40A, Sierra, and new Qrp Plus.

I put the 40-9er and KC-1 in a small metal case with lithium battery, and put two small momentary push button switches on either side of the case to act as my iambic paddle. It sure works out great. Now that everything works, it's time to start modifying the rig. The antenna used is a 40m hamstick dipole mounted on a telescoping painter's pole on the balcony of the townhome at 16ft! 72 Mike

49er Battery Mod

by John, N5INZ

I spoke with Alan, of the Famous SoCal Gang, about a mod for you folks who insist on the Mint Boxes. I got a handfull of 3.6v @ 60 mAh ni-cad batteries that are used for maintaining the BIOS in computers. They are about .75 x .5 inches. 3 in series would give you 10.8v. The bonus is that all three are smaller than a 9v rectangular and re-chargable. 2 sets and you have a change while the other charges.

Another idea would be to build a charger that plugs into the cigarette lighter.

72, John-N5INZ

Solving Two 40-9'er Problems with One Mod!

by Alan Kaul, W6RCL

kaul@netcom.com

I had one of the original boards and built one of the original designs (C20=150 pf). I had two complaints _ the rig had a strong SW broadcast station (WEWN, Birmingham, AL) overloading the receiver, AND the receiver input circuit (C20, C2, RFC1) didn't really tune the same frequency that the crystal VX0 did. In subsequent posts (here) by W1HUE/7 and N6KR, Larry and Wayne reported the circuit tuned higher in frequency than it should and the easy fix was to replace C20 with a 180 pf cap. Last night I soldered into place an even better fix!

On the theory that the SW station was there because the input circuit was not resonant, I thought I might try eliminating it by replacing RFC1 with a torroid (remember Wayne reported over the weekend that even thought the rig was to be ''torroid-less'' that the best fix for a squeal in the version B board was to replace a couple of chokes in the xmtr stage with FT-37-43 handwound coils). So with the torroid-lamp-clearly-lit by

the designer himself, I plunged ahead.

Using the traditional formula for $X_c = 1 / (2 \times \pi \times \text{freq} \times C)$, I found that a capacitance of about 180 pf (C20 + approx midrange of C2) would resonate using a coil size of approx 2.8 uH. Then I used the torroid winding formula of Turns = $100 \times \text{SQRT}(L_{\text{uH}} / \text{AL value})$. The charts indicated the AL value of a T-50-2 torroid was 49, and the coil worked out to be about 24 turns. I used #24 wire, threw it together and soldered it in place of RFC1.

WOW, what a difference! In one single step I was able to get rid of the SW crud and to find true 40M resonance in the receiver input circuit. While I was making modifications, I swapped C6 and RFC6, so C6 now connects to ground and RFC6 is isolated between the crystal and the input side of C6. Incidentally, I drilled a new hole for C6 in the large ground plane area (where the silkscreen says '49er by N6KR')!

I thought briefly about making another mod at the same time, using the 2.2 uH choke I removed (soldering RFC1 in series choke with RFC6, the VX0 choke) which might increase the swing of the VX0, but I saved it for another day.

One more thing, if you have a parts kit for board B, or have already replaced the capacitor C20 with a 180 pf cap, you can make a 2.2 uH torroid by winding a theoretical 21.189 turns on a T-50-2 (winding 21-turns ought to work!).

The 40-9'er is a terrific little rig. This mod makes it even better! GL and 73/72 de Alan, W6RCL

49er Measurements

by John, WB4OFT

Bob Kellogg AE4IC let me borrow his newly assembled 40-9er and make a few measurements. We thought the rest of the 40-9er owners would like to see the results.

I measured the transmitter performance and got the following results.

Supply voltage = 9volts

- * Power output = 235mW
- * Second harmonic = -27.8dB below the fundamental
- * Supply current = 85mA TX / *18mA RX

Supply voltage = 12volts

- * Power output = 480mW
- * Second harmonic = -24.3dB below the fundamental
- * Supply current = 125mA TX / 20mA RX

NOTE: This rig had some modifications to boost audio gain.

I used an HP8595E spectrum analyzer for the harmonic measurement and a Rhode & Schwarz NRVD power meter for the power measurement.

I was amazed how well such a simple receiver can work. Also, I listened to the transmitter operated into a 50 ohm load and my inverted vee. The 40-9er sounds as good as any commercial rig.

With all the 40-9ers out there, maybe we should have a 40-9er hunt.

That would give the rigs a good work out. Hope this information is useful.
72 John, WB4OFT

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: prvalko <prvalko@oakland.edu>
Subject: [7027] 49er problem...
Message-ID: <Pine.OSF.3.91.960412104021.7113B-100000@saturn.acs.oakland.edu>

I finished the 49er and it had the (typical) intermittent self-oscillation problem. The problem went away when I added the 1K ohm resistors across the RF chokes but the RF power dropped about in half.

Looks like 100mw output (+/- 100mw)

Is this "normal?" Would toroids fix it? Any way to get a sidetone out of the thing? Boy it's COOL... thanks again Wayne and NorCal!!!

73 =paul= wb8zjl

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: "Ralph L. Irons" <rli8m@weyl.math.virginia.edu>
Subject: [7003] 80-9er
Message-ID: <Pine.A32.3.90.960411235134.20711C-100000@weyl.math.Virginia.EDU>

After building the 40-9er and working ten states, I found myself wanting an 80-9er for checking into the Knightlite net (10:00 pm Eastern on 3710). After getting the nod from N6KR, I just doubled the L and C values in the rf circuits. Well, my junk box is sorta limited, so I made some other substitutions too. I found out that the NE602 really does like 5 volts (I had no 78L05 regulator, but did have a 78L06 at 6 volts). The NE602 soon shut down. So I added a 47K pot to drop the voltage down to 5v, and it works fine. Also, I used a LM386. Plenty of volume! Following the suggestions on the list, I used several (33 microhenry) chokes in the VX0 circuit to get a surprising 4khz swing on 80m.

Now if I find a crystal for 3710, I'm set! 'Til then, I'll be hanging out on 3635 (where did I get THAT xtal? So far all I've heard is chirping!)

72, Ralph AA6UL/4

From owner-qrp-l@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: James Bennett <james@research.nj.nec.com>
Subject: [7034] 80-9er lives!!!
Message-ID: <199604121716.NAA06583@shakti.nj.nec.com>

I just finished my modified 40-9er last night. Using a 3579 kHz crystal and approximately doubling the tuned circuit values it works on 80m. Thanks to Wayne's great design and suggestions on modification to 80 it is not that difficult. Receiver works and tunes approx 3kHz. Transmit power is low but I still have to optimize the output tuned circuit. I copied several signals including W1AW (3582 kHz?). As I am still tweaking the values of some components, I will post the results after I make a few more mods.

James Bennett KA5DVS/2

From owner-qrp-l@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Steve Slavsky <sslavsky@CapAccess.org>
Subject: [7018] Absorptive Antenna Tuner
Message-ID: <Pine.SUN.3.91-FP.960412091156.1029B-1000000@cap1.capaccess.org>

Another question for the technical intelligentsia on the list. I noticed that the 40-9er instructions indicate that there is no SWR protection for the final and say that you should use either a pre-matched antenna or an "absorptive" antenna tuner. What is that? Would my MFJ 941C qualify? How about a 949E? Should I just stick a little sponge in it to provide the absorption ;-)? If anyone can explain this, I'd be grateful.

Also, is it possible to put SWR protection, in the form of a zener diode like the OHR and some other QRP rigs have, on the 40-9er? Maybe I'll just use a simple dipole, but I'd like to use my long wire.

Thanks for your help.

73 & 72,

Steve, N4EUK
Reston, VA

From owner-qrp-l@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Steve Miller <kg7pv@teleport.com>
Subject: [6998] Altoids holes
Message-ID: <1.5.4.32.19960412020325.0068caa8@mail.teleport.com>

Well, I have my empty boxes and one Pixie built, one Pixie to go and a 49er to go.

After the first Altoid Pixie I am forced to ask how everyone is drilling or punching the

holes in the soft metal box. My new twist bits just mangled the first box so I drilled some small holes and used a file to enlarge them. Not neat enough. Any machinists on the list who can suggest a tool or method so I don't waste any more of my precious Altoids boxes?? 73

Steve Miller KG7PV

Portland, Or (packet kg7pv @ k7iqi.or.usa.noam)

Norcal # 308, QRP-L #109

From owner-qrp-l@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: skw9nqp@aztec.asu.edu (STEVE KALAFUS)
Subject: [7000] Another Synthesizer Article
Message-ID: <9604120304.AA06062@aztec.asu.edu>

Maybe I missed it, but I did not see any reference to an article in the March 95 QST in all the recent synthesizer postings. The article entitled, "A High-Performance Hybrid Frequency Synthesizer" was written By Ulrich Rhode, KA2WEU. I believe that is Dr. Rhode of receiver design fame. The design presented would not be suitable for inclusion in a QRP rig, but it may give some of you who are looking at this subject some more ideas or threads to follow.

I have enjoyed reading the postings to the list for the past year or so. I just completed a forty-9er. The last kit I built was a Heathkit DX-40 back about 1958 when I was in high school, my eyes were better, and the components were much larger. Now I'm ready for something a little more complex, like maybe a Sierra.

--

----- Steve Kalafus W9NQP -----

Phoenix, Arizona
skw9nqp@aztec.asu.edu

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: KE3FL@delphi.com
Subject: [6994] Antenna Analyzers MFJ again
Message-ID: <01I3FHX0CZ029ANQTG@delphi.com>

Antenna Analysers:

Hi again, I agree that the AEA is too rich. But it seems that we all forgot to mention that the MFJ does have instructions on how to measure both inductance and capacitance. I've tried it and sometimes it even works. No where near as easy as the Auttek, but it's suppose to be possible. I've used the freq counter a bunch. Tuning up a QRP rig is a breeze with it. Clip it to the antenna wire, transmit, and read your freq direct!

73, KE3FL/Phil
:-)

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: tmh@world.std.com
Subject: [7013] April 14-21 20 Sked
Message-ID: <Pine.3.89.9604120720.C14570-0100000@world.std.com>

I'll be on the over-crowded, over-hyped island of Martha's Vineyard for the week of April 14-21, trying to finish a writing project. I'll be all alone in a country house.

To keep me from turning into Jack Nicholson in "The Shining" I'm bringing along my Cascade...it's your job to talk to me and keep me sane: Please!

I thought I would call CQ on 14.260 at 8:00am and 6:00pm EDT. (The 8:00am stint will guarantee I don't oversleep, and the 6:00pm will give me something to look forwards to while working.) I'll call CQ starting promptly on the hour, and continue for five minutes. After that I'll feel free to roam around the band. 14.260 is an IOTA frequency, and while hardly exotic the Vineyard is NA 046. Also, along with Nantucket, it makes up Dukes County, which may be relevant to some people. If 14.260 is occupied I'll move *up* frequency, as little as necessary. (Also, my frequency dial isn't super-accurate, so I may be off).

I'd really appreciate some QSO's from folks, QRP or QRO. I'll also try to get on 80m, but, I have to build an antenna first...:-).

-- Tim
Timothy Huntington
N1PAZ
tmh@world.std.com

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: adams@chuck.dallas.sgi.com (chuck adams)
Subject: [7045] ARCI Contest
Message-ID: <199604122016.UAA26237@chuck.dallas.sgi.com>

Anyone doing a single band entry this weekend?
Waiting until you look at propagation? Let us
know.

See you there.

..
--

Chuck Adams (K5FO CP-60) adams@sgi.com
Box 181150, Dallas, TX 75218-8150

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: "Dwight G. Jones" <104307.2100@compuserve.com>
Subject: [7058] Case for QRP+
Message-ID: <199604122103_MC1-2E8-D1D4@compuserve.com>

Outdoors Research sells a line of cube shaped padded cases with zippered tops. They are intended to be used for camp stoves, but the smallest one appears to be shaped like a QRP+. These cases are available from mail order camping stores or your local backpack store may have them. (I don't have the QRP+ yet, but I'm saving my pennies. If the QRP+ keeps getting improved, it may take a while for me to afford one.)

Dwight K06FE

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996

From: Richard E Robinson <rerobins@uncc.edu>
Subject: [7012] DC Electronics Catalog
Message-ID: <Pine.SOL.3.91.960412081324.25808D-100000@unccsun>

I just received my 1996 DC Electronics catalog and found lots of goodies for us QRPers.

NE602 \$2.50
LM380N-8 \$1.10
MRF476 \$3.16
SBL-1 \$6.95 saw these at Charlotte for \$8 (I passed)
Amidon toroids @ 2 & 3 /\$1.00
Ten-Tec enclosures, many Mouser parts with price breaks for quantities of 10 which Mouser doesn't offer.

If you don't get their catalog you should give them a ring at 800-467-7736. This is a good one stop place for QRP parts.

Usual diclaimerers apply here. I'm just a satisfied customer of theirs.

72/73,

Rick Robinson kf4ar
rerobins@uncc.edu

From owner-qrp-l@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: QLF%mimi@magic.itg.ti.com
Subject: [7019] DRILLING ALTOIDS TINS, etc, etc, etc, - - - - -
Message-ID: <9604121331.AA29911@itg.ti.com>

From: Brad Bradfield QLF

Subj: DRILLING ALTOIDS TINS, etc, etc, etc, - - - - -

Good morning all you QRP Dudes and Dudettes - - -

I just wanted to comment on a couple of things I saw when reading all the postings to the list since I went home from work last night.

1) Drilling the Altoids can is, indeed, a problem. The block of wood trick works, and would probably work better if another small block is placed on top and clamped there. I think a drill press would help too. You could even clamp the whole kit and kaboodle (What the heck is a "kit and kaboodle" anyway??) to the drill press table.

2) Soldering PL-259's. My antique 100/150 dual heat Weller gun works great. Someone else already mentioned the trick of filing down to the brass around the holes with a small rat tail file and pre-tinning the connector. I have also always found that a drop of liquid flux into each hole after the coax is inserted makes it wick solder like you wouldn't believe! But to top it all off, if you spend the extra buck or so to buy the silver plated PL-259's (Amphenol # 83-1SP) you'll have the best luck of all. Don't file (!!) the silver plated connectors, but do use a drop of the liquid flux.

Hope those suggestions help.

Being a former broadcast engineer, I've got interests in the opposite end of the power spectrum from QRP too. Like QR000000. Got into a discussion on the Boatanchors list a couple weeks back about really BIG broadcast transmitters, like the 500 kW rig at WLW in Cincinnati, and the 500 kW (or so) monsters that the Border Blasters in Mexico used to run. Sorry to get off track, but thought y'all might be interested.

Have a great weekend out there in QRP land. Hope to get back to work on my 40-9er this weekend. Thanks to Doug for the 40-9er compendium.

73's

Brad, WB0CGH

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*****
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Collector of wireless and landline Morse keys and accessories.

From owner-qrp-l@LEHIGH.EDU Fri Apr 12 22:11:46 1996

From: edward.f.burke@bangate1.tek.com

Subject: [6997] Epiphyte 2 on The Air!

Message-ID: <vines.iE39+7GPPLA@bangate2.tek.com>

I attended the March Norcal meeting at the California Burger Restaurant. Took a plane from Portland to Oakland for the day, and had a good time meeting many of the people I had previously only talked to, or corresponded with.

At the meeting, Vern Wright, W6MMA showed me his Epiphyte transceiver with a

built-in frequency counter. The dynasty of Epiphytes has been designed by Derry Spittle, VE7QK and is a part of a tradition of QRP SSB rigs developed by amateurs in British Columbia, and as you will see, developed to a surprising degree of sophistication.

Anyway, Vern was gracious enough to give me a blank circuit board and a 12 volt relay for the newest version of the Epiphyte series, the Epiphyte 2. So there went my spare time during the months of March and April!!

If you belong either to GQRP club or to Norcal, you have probably seen descriptions of the EP 2, since they have been published both in Sprat and in QRPP. The version in the latest issue of QRPP has a number of late changes; the output coupling was changed from a T network to a binocular toroid transformer to limit instability. But the instructions in the text of the articles are almost verbatim.

Here is a thumbnail description of the rig. First of all, it is tiny. It is an (almost) complete 75M SSB transceiver with in excess of five Watts output in a circuit board only 4.5" long and 2.8" wide, needing only a low-pass filter to be functional. It uses an IRF510 MOS power transistor driven by a CA3020 pre-driver. The circuit cleverly uses the same set of two NE602's as first and second mixers, but demonstrating that a SSB transmitter can be a superhet receiver in reverse, uses a CMOS 4066 switch to route the LFO and VFO signals to the appropriate mixer:

	1st Mixer	2nd Mixer
Receiver	VFO	LFO
Transmitter	LFO	VFO

The IF frequency choice takes advantage of the fact that there are a lot of components already developed and available in diminutive sizes for 455 KHz. And 75 Meters is a low enough operating frequency that 455 KHz is an effective choice. The IF filter is a very compact Murata unit which does a good job. I found the receiver to be excellent for its class; it performs on a par with my Norcal Cascade, and that rig can hear anything that it might possibly talk to. Have not (as yet) had a chance to measure the sensitivity, but it "feels" like a fraction of a microvolt.

I have operated my EP 2 for about two weeks now (thanks to Doug Hendricks, who helped me get some scarce parts) and a logical question is "how does it work". My response is that it works wonderfully well, as long as three details are dealt with.

The first is a ground loop in the power output stage. When I first tried my EP 2 during the evening QRP net on 3760 KHz, I was told that it sounded pretty terrible, and indeed, when I looked at the output with my oscilloscope, the waveform was pretty rough. Derry, VE7QK, the designer, indicated that a ground loop in the board (as published in QRPP) was preventing the power stage from working properly. I started experimenting, and while my investigations were not

exhaustive, developed a set of fixes which include three cuts and a ground strap (or maybe a ground wire) which seem to fix the problem. Derry and Dave Meacham, W6EMD have both tried the fixes, and as far as I know, both have been successful. I get about seven Watts output on peaks now, and signal reports have been mostly excellent except when I have not tuned my rig to the proper frequency.

I have sent a sketch of the (ground loop) changes to Doug Hendricks so that he might consider including it in the next QRPP. The cuts can easily be made with an Xacto knife (but you might practice a bit, if you have never done it before on a section of scrap circuit board). The jumper I used is a small piece of brass shim stock (maybe .005" thick or so) soldered to the traces. It must be bent in a gentle arc so that it does not short out the 12 Volt line beneath it. Probably a heavy piece of insulated wire would do as well.

The second issue is the relationship of choke L9 and transformer T3. As the board was laid out they are both close and aligned for interaction. I got improved results from turning L9 90 degrees and moving it as far as possible from T3. A little adhesive will attach the choke to the board in that orientation.

The third issue is a minor error in the parts list as published by QRPP (the list in Sprat does not have the error). C20 and C21 are shown as 0.1 microFarad capacitors in QRPP; they should be 0.01 microFarad, or Derry claims that the receiver will not function properly.

By the way, don't even consider operating this little rig without running the output through a suitable low-pass filter. The wave form looks terrible without it but nice and sinusoidal after it is added. I used a duplicate of the 75M filter that Dave Meacham designed for the Cascade. Seems to work fine.

Finally, a matter of personal taste. I chose to add an RF gain control to my Epiphyte 2 receiver. It is easy to do. Just cut the trace from relay contact K1B to the junction of C33 and C34. Patch in a 1000 Ohm potentiometer as follows. One side of the element goes to relay contact K1B, the other side of the element goes to a convenient ground, and the wiper of the pot goes to the junction of C33 and C34. Indispensable when a strong signal overloads your NE602!

The Epiphyte is an amazingly capable little SSB rig. I have used it nightly for the last week with excellent results over much of the western part of the U.S.A. Next, I am considering adding an AGC circuit to the receiver section.

More on that later. Enjoy!

Ed Burke, KI7KW

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: prvalko <prvalko@oakland.edu>
Subject: [7025] Found Altoids in my desk!!!
Message-ID: <Pine.OSF.3.91.960412103044.7113A-100000@saturn.acs.oakland.edu>

Incredible...

I certainly qualify for at least runner-up in the "Worlds' Messiest Desk" competition, but I had NO IDEA it could be THIS bad.

I was digging through the top drawer of the desk and * W A Y * in the back I actually came across a tin Altoids box! The box was filled with PAPERCLIPS and must have belonged to my predecessor. I remembered seeing it once and it eventually found its way to the rear of the drawer.

This was too funny... even for me... so I snapped a picture of the desktop with me, holding the treasured, future 49er case. I sent a message to Steve and if he approves, you'll be able to see it on the QRP-L Homepage at Notre Dame.

I'll probably also include it on my own homepage at
<http://www.acs.oakland.edu/~prvalko>

73! =paul= wb8zjl

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: buhyoff@mail.vt.edu (Gregory J. Buhyoff)
Subject: [7011] FS:Ten-Tec Model 291 Tuner
Message-ID: <199604121215.IAA24601@sable.cc.vt.edu>

Brand new, never used, mint condition, Ten-Tec Model 291 Tuner for sale.
\$60 includes shipping via UPS. 200 watt maximum. Great little tuner. Call
as per below or e-mail Buhyoff@vt.edu.

Thanks and 73,
Greg KN4FR

Gregory J. Buhyoff
Julian N. Cheatham Professor

Dept. of Forestry
304 Cheatham Hall
Virginia Polytechnic Institute and State University
Blacksburg, VA 24061

Buhyoff@vt.edu
Office 540-231-5148
Fax 540-231-3698

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Price_Joe/nsih1_RICHARDSON/alcatel/US/Telemail/
alcanet@audopen.aud.alcatel.com
Subject: [7015] Hi-watt soldering
Message-ID: <H00004a202151761@MHS>

Simple.

Take a soldering gun, remove the tip, push the two ends against the
connector body. Direct resistance heating.

Tastes great, less filling, last long time.

Joe WA5UNK
QRP-L 476 NTRAK NCAT

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: PAT DOYLE <DOYLEPS@lakehurst.navy.mil>
Subject: [7028] K2AA special event this weekend. Delete if you only want
Message-ID: <s16e2b47.048@LAKEHURST.NAVY.MIL>

QRP stuff.

The following is a general message for those
interested in working special event stations.

The South Jersey Radio Association (SJRA) will be
active this weekend (1400z April 13 through 2359z
April 14, 1996) operating Special Event station
K2AA/80, in honor of W2EA, who passed away last
year. A special certificate will be issued for
all QSOs with K2AA/80 this weekend. See the
Special Events pages of QST, April 1996, for full
details.

As W2EA was active on most amateur frequencies through UHF, the club is attempting to have K2AA/80 active on all amateur frequencies from 1.8 through 432 Mhz, plus 902 and 1296 Mhz at some time during the weekend. As a minimum, K2AA/80 will be active in the lower 40 meter General Class SSB and CW subbands and 2 meters.

As part of its 80th anniversary, the club is sponsoring four events this year in honor of deceased members who have made significant impact on its longevity.

For those with World Wide Web access, the SJRA homepage, which has additional information on 80th anniversary activities, can be found at:
<http://waterw.com/~sjra/sjra.html>.
Also, see Worldradio, April 1996, for the SJRA story.

I hope everyone has an enjoyable weekend.

73 de KA2GSL

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: "Dana H. Myers" <myers@bigboy.West.Sun.COM>
Subject: [7056] keeping a key in one spot...
Message-ID: <Roam.3.0.829356636.20575.myers@bigboy>

I admit I traded my straight key in for a bi key (a Ham Key HK-1) in 1983. The HK-1 is pretty heavy and doesn't easily move in the first place, so I rest my second finger on the base while sending with my thumb and first finger. I suppose the reason this works as well as it does is that it makes pushing on the paddles an isometric exercise ;-).

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: w3fpr@nando.net (D B Wilhelm)
Subject: [7055] Key slipping cure
Message-ID: <9604130045.AA20432@nando.net.nando.net>

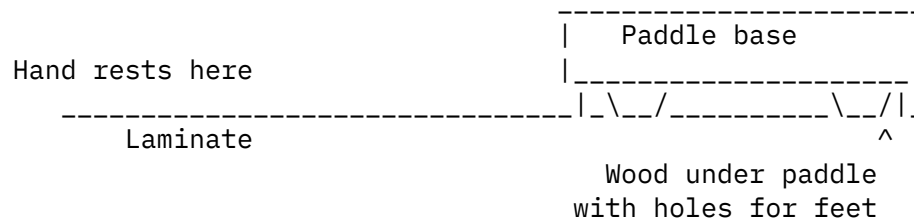
There have been several suggestions for keeping a key or paddle from walking

about the table. putting something "sticky" under the key feet has never been comfortable for me, because it is in a fixed position on the desk and I don't feel just right with the heel of my hand on the same sticky surface. I use a different solution which is easy to implement.

I use a piece of plastic laminate - Formica and other brands - that is a bit wider than the key base and 10 to 12 inches long. I mount a piece of 1/4" thick wood on one end into which I drill holes just big enough for the rubber feet on my paddle to pass through - I glue the wood to the laminate with contact cement.

In use, I place my paddle on the wood with its feet in the holes, and I rest my hand on the part of the laminate that sticks out in front of the paddle. This way the paddle stays firmly referenced to my hand position, and I can move the whole assembly about on the desk if and when I want to shift keying position a bit.

Trying an ASCII picture:



Since I own a woodworking shop, the components are easy to come by for me, in fact I even dress mine up by using walnut for the wood, but if you stop and chat a bit with your local cabinet-maker or friendly woodworker, you may find the laminate in the scrap heap, and a small piece of 1/4" plywood too. If he is really good-natured and you hit the right day, he may even drill the wood and glue it to the laminate for you too. (Take your paddle along for sizing and spacing the holes).

72/73

de W3FPR - Don

W3FPR Don Wilhelm

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: af852@rgfn.epcc.Edu (William R Colbert)
Subject: [7032] line noise
Message-ID: <9604121651.AA27531@rgfn.epcc.Edu>

Jay, sounds like some of the people from 35 years ago are still with the Drip & Tingle in LA. Same results I used to get. There was some articles several years back by a tech/interference chaser from So. Cal. Ed, written in QST, on how to find the problem, identify it and who to call, either at DWP or SoCalED. Good luck on getting their attention. 72/73 Ray

--

Ray Colbert, W5XE/V31XE, El Paso, Tx

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: lbbarley@southwind.net (Bruce Barley)
Subject: [7041] Line Noise - No More!
Message-ID: <199604121826.NAA08884@onyx.southwind.net>

I have to make do with a very short city lot, and the end result is that I work 40m with a home brew ground mounted vertical less than 50 feet from some 12KV distribution lines and a pole mounted transformer serving several houses in our neighborhood. The line noise had been bad for some extended time, but seemed to be getting worse. Just after a rain, all would be quiet for some hours. Then the frying would return. On a dry, and windy day - forget it! 80 over S9 on all bands. As an experiment, I put my scope directly on my antenna lead in coax - 200+ mv p/p of hash. It was bad enough to cause "sparkle" in our tv picture, even though we are on cable TV.

I went through all the obvious, turning off all the breakers in the house, etc. On a battery powered AM portable the noise did not change or go away at all. However, by rotating its orientation, the noise diminished when the radio was held pointed in the direction of the power pole on the back easement. So I called Kansas Gas & Electric who provides the electric service here in Wichita. The lady who took my service request went through her canned list of questions asking if I had turned off the breakers, etc. We had just had a dandy of a wind storm here, with a fair amount of damage to power lines etc, so I knew that it would probably be a week or two before any action was taken.

About two weeks later, just as I was starting to seriously consider calling back, KG&E called, asking if I would be home later that morning. For them, I sure would be!

What an invasion! Would you believe they sent FIVE men and THREE trucks out to work my service call? Yes! This squad is called their "Ghost Buster" crew. They have sufficient manpower and equipment to handle nearly any problem on

the first call. The foreman had a VHF receiver tunable from 50 - 500 Mc which had both audio, and a signal strength meter. He also had what appeared to be a modified small VHF yagi on a stick about 6' high. They indeed found that there was a lot of wide band trash radiating from the top of the pole with the transformer back on the easement. Turned out to be a damaged lightning arrester - a stack of graphite disks in a ceramic tube having threaded metal mounting brackets at each end. It had taken one hit too many.

Twenty minutes later the noise level was ALMOST completely gone. The foreman, noting my vertical {he is NOT a ham}, said he would make another signal sweep because he was still picking up some interference. Turned out to be tree limbs in the primaries, almost a block away. He told me his crew did not do tree trimming, but he would turn it in to their regular subcontractors. About another week later, and the limbs were gone! So was the last of the hash.

Fantastic service! Since then, I've worked Lou - WB3AAI in Halifax, PA. two different times, with his Sierra running 2W, putting in a 449 to Wichita. I also worked Dan - AC6LA, with his 4W from San Jose, CA. His RST was 339, but very do-able minus the line hash. Now, that leaves my daughter's aquarium heater

It's really great! The service KG&E provided was absolutely top drawer! Ham radio is fun again! See you on 40m.

73's
Bruce
KB0PZD ex: WDOHRQ

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: prvalko <prvalko@oakland.edu>
Subject: [7047] Me and my Desk
Message-ID: <Pine.OSF.3.91.960412173012.3161A-100000@saturn.acs.oakland.edu>

Steve put my picture up on the QRP-L homepage. You can find it at

<http://qrp.cc.nd.edu/qrp-1/miscpics/wb8zjl/desk.html>

It is casual day here in the office so that's why I'm not in uniform (suit and tie).

That's a REAL condemnation notice on the wall behind me.

Free prize to the QRP-Ler who can identify the most objects on my desk.

73 =paul= wb8zjl

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: gcouger@master.ceat.okstate.edu
Subject: [7020] Micro contorler
Message-ID: <199604121342.JAA111268@nss2.CC.Lehigh.EDU>

I have done considerable work with embeded systems. The 68hc11 is over kill but the price is right. With surplus chips from \$2-\$3 and full develoment kits available from New Micros for under \$100. This includes board, FORTH, BASIC, assembly and small C.

I have a memory keyer program in FORTH and the C routines to send CW when the function is passes a string.

I have no conection with New Micro's and the code is free for the asking for non-commercial usage.

Gordon AB5DG

Gordon Cougar
Biosystems & Agricultural Engineering. 114 AG Hall Stillwater, OK 74075
gcouger@master.ceat.okstate.edu 405 744 8392 day 625-2855 evenings

s

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: NYOUNG@nova.wright.edu
Subject: [7049] More Line Noise....
Message-ID: <01I3GP5N00VK8WYRUF@nova.wright.edu>

Dad used to call the local power company "Dayton Plunder & Loot."
For years Cindy and I would pay our bills to them folks with a check made out to "Dayton Plunder & Loot." They never had any trouble cashin' 'em, I guess, 'cause we never lost service. But I did go through a lot of hassle with 'em over line noise.

When Cid and I first got married, we lived down in Dayton, right at the intersection of US35 and a couple local main drags into

what Europeans call "centrum." We had power poles and light poles and electric bus lines all around us. Worst damn place you'd think you could find for radio. The apartment manager let me put a dipole for 40 on the roof, strung between two ornamental chimblies. It worked pretty well, hosed up to the Argonaut & tuner set up. A lot of CW.

Then when Cid got pregnant with the first son, we moved to a little less brutal neck of the woods. About 20 miles north of Dayton in a sub-division called "Park Layne." Prefab aluminum siding houses with weird backyards. A whole civilization of CB radio antennas, Ford pick-em-ups on blocks, dirt bikes on the sidewalks, with our backyard facing the county well fields. Hayseed heaven. I was right at home, y'unnerstan? People with no consonants in their language. I put a 35 ft chonk of aluminum on the roof, hosed a big dipole with twin-lead at the top of it and got deep into the Ohio Valley Teratology Net.

That was all I could do. We had line noise beyond belief. You could hear it without radios, 'cause the trashformer in the backyard would kinda like make this cheer buzzin' noise after it rained. Or when it was dry. I called Dayton Plunder & Loot and they came out and looked at the transformer. They didn't hear anything. They left. The noise remained. One of the kids down the street offered to "357 the sucker." "**ey'** *a* *o *e**ace i* *er *ure **e*," he assured me.

Then when Ian was about 4 we moved to New Carlisle. The high-rent end of Park Layne. People with consonants in their language. Underground services and, eventually, cable too. I put up a 45 ft tower, made a 3-element beam and worked DX till the cows came home. Even had a local felon watch my house for me from time to time. (No joke. He'd steal useless shit from other people and when they'd bust into his digs to retrieve it, he'd tell 'em "That's mine now. And I'm gonna get it back!" One night when I'd left the garage door open, he came up and closed it. Not a thing touched. Weird.)

Then Cindy started reading Country Living magazine and watching "This Old House." My folks passed away. We moved here. Back to the suburbs of Park Layne. Some folks have consonants, some don't. And now, from time to time, I have line noise. But....

I love the Argosy. If you put in the mods for the RF gain (and I took 'em off the front panel and put 'em inside to keep the gain level... but I digress), you can run the noiseblanker and kill about 90 percent of the crap that's around the house. The TR7 has the Steve Whitefield NB7, so I don't sweat much with it.

Still... It'd be nice to have the old QTH.

I mean, I had no line noise. I had a ground system that was, well, the entire fence system of the neighborhood. I had a nice tower and a decently accommodated shack. And I could just about strangle Bob Vila to get it back.

I tell Cindy that if we win the lotto, I'm moving to some hill in Georgia -- although, from what I've seen here about KG&E, I'd settle for being William Burroughs' neighbor (he lives in Lawrence, Kansas, you know?) -- and put up a tower next to a concrete slab prefab with aluminum siding and buried services.

Or move to Argentina and be DX. Desde la Estancia de los Guajalotes Sonrientes transmite Radio Bogus, la voz de la pura mierda en un mundo de mentiras.... Ay, que sueño, che.

And have a couple local gauchos drop by for mate' in the evening.
"?Donde esta Don Mateo, que no lo veo?" Que si.

73

Nils

WB8IJN &

c... Oh yeah, from Argentina (or Georgia or Kansas, for that matter)
I could run solar. Which brings up a question:

Anyone with consonants in their language doing solar "charge-and-use" QRP (or even moderate levels [50w tops] of QRO)?

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996

From: Doug Hendricks <ki6ds@telis.org>

Subject: [7008] No More St. Louis Tuners Available

Message-ID: <316DF50B.9E6@telis.org>

Guys, all St. Louis Tuner kits have been sold. Please do not send messages asking if I can squeeze one more out, I can't. We will not do any more, and if you missed it, you missed it. Sorry. 72, Doug, KI6DS

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996

From: bry2@usa.pipeline.com (bry2@usa.pipeline.com)

Subject: [6991] No Subject

Message-ID: <9604120059.AA06308@pipe9>

Some of you are probably wondering:
"What on earth has happened to Brian?"

"I sent him e-mail but he doesn't reply!"

Well, the fact is that INTERNET has been in TERRIBLE shape for the past few weeks, and VERY LITTLE e-mail is even getting through to me at EITHER my old address or at my new one!

SO If you want to get in touch, I would suggest sending everything twice and maybe even CC: is to both of my addresses.

SOrry for the mix up, but I believe the problem is endemic to an over-loaded INTERNET system now. It is beyond being JUST the fault of ACENET or PSI Net (Pipeline)...

Please keep trying - I would love to hear back from you some more.

Your friend - Bry (Brian Carling)

From: brian.carling@acenet.com

"mail sometimes bounces here, please resend if needed!"

OR - Please reply to me at my NEW e-mail address:
bry2@usa.pipeline.com

"No - TACO BELL is NOT the Mexican phone company!"

--

Bry in Gaithersburg, MD near DC
bry2@usa.pipeline.com
Amateur Radio AF4K / G3XLQ

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: cjsterl@ix.netcom.com (Craig J. Sterling)
Subject: [7048] Norcal 40 & Sierra
Message-ID: <199604122213.PAA01675@dfw-ix6.ix.netcom.com>

Folks,

Has anyone ever tried to get 5 watts out of a NORCAL 40A or Sierra?
If so, will I find articles in back issues of QRPp? Just ordered the entire set of back issues ... \$43.00 ... seems like a bargain based on what I've seen from the two previous issues.

TNX,
Craig, AA3MD
Washington, D.C.

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Rick Zabrodski <zabrodsk@med.ucalgary.ca>
Subject: [7061] Practical experience: 40 m dipole on 160
Message-ID: <Pine.SUN.3.92.960412201037.7856B-100000@ume>

This past winter (actually, it STILL FEELS like winter here) I was playing with 160 one night and decided to load up a 40m inverted vee, apex up 60 feed and fed with ladder line and a conventional T tuner with balun 160m. I compared it with a shunt fed tower veritical made to resonate using a extension wire. Propagation was good that night. I heard lots of north american stations on 160m that were S6 to S9 with the dipole. Switching to the "near full size" vertical showed the latter giving signals S9 plus 10 to 30 db. BTW, I cannot load up the 40 m inverted vee with a commercial z match or home brew link coupled tuner on 160m

I guess my point is, even with ladder line you may be fooled that the antenna is working "great" if you cannot compare to a "reference" antenna. The difference I noted that night was like the difference between 5 watts and a low long wire on 20 meters and a legal gallon with phased monobanders.

Dr. Rick Zabrodski BSc, MD, CCFP(E) MRO ★ VE6GK
Clinical Assistant Professor ★ NorCal 519 ARCI 7650 GQRP 8329
Faculty of Medicine, Univ. of Calgary ★ "Power is no substitute for skill"

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Stan Wilson <randyw@crl.com>
Subject: [7017] Progress Report - 40 meter beacon
Message-ID: <316E5493.3FD5@crl.com>

The beacon will run until mid-night Saturday. Frequency 7033 khz at 250 milliwatts. CW at 12 wpm.

Initial results indicate if you are 500 or more miles from St. Louis chances are very good you will be able to copy the signal.

22 states and Canada have reported receiving the proper code word.
Signal reports have ranged from Q5 S0 to Q5 S9.

Today we are expecting Rain. So I expect signal level to increase.
It has been very dry here this year and moisture should help the
signal on its path.

Please send reports to randyw@crl.com include antenna and receiver.

The signal is vertical polarized. Results have shown vertical to be
the best for reception including a 102" whip.

Regards de stan ak0b

From owner-qrp-l@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: kd7s@valleynet.com (Bill Jones)
Subject: [7060] QRP ARCI and QQ
Message-ID: <199604130218.TAA12135@valleynet.com>

The QRP ARCI is, in my opinion, one of the finest QRP organizations ever.
For those who think it is lacking in some manner, why not volunteer *your*
time and energy to make it even better. I have nothing but respect and
admiration for the dedicated folks who make QRP ARCI, NorCal, NE & NW QRP
Club, Colorado & Michigan Clubs, G-QRP Club (and the list goes on and on)
what they are today. We all owe these people.....big-time.

=====
Bill Jones - KD7S <><
QRP-L Member #85
Sanger, California
Reply to kd7s@valleynet.com
=====

From owner-qrp-l@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: talljazz@teleport.com (Dan Presley)
Subject: [7037] QRP to the field-Oregon
Message-ID: <v01530501ad9449467836@[206.163.122.141]>

Is anyone know of (or interested in doing a "QRP to the Field" in the
Portland -Willamette valley area? I'd like to try, so contact me at
talljazz@teleport.com or (503) 232-5346. I'm also interested in meeting up
with other qrp'ers in the Portland area for informal 'bull' sessions.
Dan N7CQR

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: dgf@netcom.com (David Feldman)
Subject: [7001] QRP++ - audio AGC - make it faster?
Message-ID: <199604120312.UAA15885@netcom8.netcom.com>

Well, I have my "upgraded" QRP++ back on the air. Definately the RX is more sensitive, but I think it's going to have ALOT of trouble in the low end of 40M CW scene... Of course the good news is that the rig should be alot better with compact antennas. However, on the 40M beam.....

I'd REALLY like to make the AGC time constant faster. It seems the RX has trouble charging the AGC cap fast enough - hence it still has alot of trouble with thumps and other bad things near strong signals, particularly on narrower selectivity settings.

The good news is there is now a hole on the back panel where the mic gain control was. I am thinking of putting a AGC fast/slow switch back there, provided I can find the AGC cap in the first place.

Has anyone tried reducing the value of the AGC cap? Where is the cap?

73 Dave WB0GAZ dgf@netcom.com

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: "Steven Karty" <kartys@ncr.disa.mil>
Subject: [7022] QRPp
Message-ID: <9603128293.AA829329306@ncr.disa.mil>

Has the QRPp issue for the first quarter of 1996 come out yet?

I haven't received it, even though I renewed my membership in December, and I was just wondering who I should ask to send me my copy. I had this same problem last year, and it turned out that my name had gotten lost on the way from Sacramento.

TNX es 72/73, Steven Karty N4UHO
kartys@ncr.disa.mil

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: talljazz@teleport.com (Dan Presley)
Subject: [7038] repost
Message-ID: <v01530503ad944dd58a86@[206.163.121.73]>

I goofed! I sent a response on the soldering iron question to a list member when I meant to post it to the list! To whomever I sent it to; could you please post it to the list?Thanks!
Dan N7CQR

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Greg Buhyoff <buhyoff@vt.edu>
Subject: [7044] Ten-Tec 291 Tuner **SOLD**
Message-ID: <199604122002.QAA27718@sable.cc.vt.edu>

The tuner is sold. Thank you all.

73, Greg KN4FR
Gregory J. Buhyoff
Julian Cheatham Professor
Dept. of Forestry
Virginia Polytechnic Institute and State University
Blacksburg, Virginia 24061

Phone: 540-231-5148
E-mail Buhyoff@vt.edu

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Paul Erickson <paul1@wizard.ucs.sfu.ca>
Subject: [7002] viruses and such (fwd)
Message-ID: <9604120344.AA26600@wizard.ucs.sfu.ca>

Hi Everyone,

Thought you might get a kick out of this.

cheers, Paul
VE7CQK
email: paul1@wizard.ucs.sfu.ca

Forwarded message:

> WARNING! VIRUS ALERT!
>
> Immediately scan your computer for the following viruses
>
> PAT BUCHANAN VIRUS: Your system works fine, but it complains loudly about
> foreign software. Frequently accompanies the Right-to-Life and the Randall
> Terry
> virus
>
> COLIN POWELL VIRUS: Makes its presence known, but doesn't do anything.
> Secretly, you wish it would.
>
> HILLARY CLINTON VIRUS: Files disappear, only to reappear mysteriously a year
> later, in another directory.
>
> O.J. SIMPSON VIRUS: You know it's guilty of trashing your system, but you just
> can't prove it.
>
> BOB DOLE VIRUS: Could be virulent, but it's been around too long to be much of
> a
> threat.
>
> STEVE FORBES VIRUS: All files are reported as the same size.
>
> OPRAH WINFREY VIRUS: Your 200MB hard drive suddenly shrinks to 80MB, and then
> slowly expands back to 200MB.
>
> AT&T VIRUS: Every three minutes it tells you what great service you're
> getting.
>
> MCI VIRUS: Every three minutes it reminds you that you're paying too much for
> the AT&T virus.
>
> PAUL REVERE VIRUS: This revolutionary virus does not horse around. It warns
> you of impending hard disk attack: Once, if by LAN; twice if by C.
>
> POLITICALLY CORRECT VIRUS: Never identifies itself as a "virus," but instead
> refers to itself as an "electronic micro-organism."
>
> RIGHT-TO-LIFE VIRUS: Won't allow you to delete a file, regardless of how
> young it is. If you attempt to erase a file, it requires you to see a
> counselor about
> possible alternatives.
>
> ROSS PEROT VIRUS: Activates every component in your system, just before the
> whole thing quits.

>
> MARIO CUOMO VIRUS: It would be a great virus, but it refuses to run.
>
> TED TURNER VIRUS: Colorizes your monochrome monitor.
>
> ARNOLD SCHWARZENEGGAR VIRUS: Terminates and stays resident. It'll be back.
>
> DAN QUAYLE VIRUS (#2): There is something wrong with your computer, but we can't
> figure you out! Watt!
>
> GOVERNMENT ECONOMIST VIRUS: Nothing works, but all your diagnostic software
> says everything is fine.
>
> NEW WORLD ORDER VIRUS: Probably harmless, but it makes a lot of people really
> mad just thinking about it.
>
> FEDERAL BUREAUCRAT VIRUS: Divides your hard disk into hundreds of little
> units,
> each of which does practically nothing, but all of which claim to be the most
> important part of your computer.
>
> GALLUP VIRUS: Sixty percent of the PC's infected will lose 30 percent of
> their data 14 percent of the time (plus or minus a 3.5 percent margin of
> error).
>
> RANDALL TERRY VIRUS: Prints "Oh no you don't" whenever you choose "Abort"
> from the "Abort, Retry, Fail" message.
>
> TEXAS VIRUS: Makes sure that it's bigger than any other file.
>
> ADAM AND EVE VIRUS: Takes a couple bytes out of your Apple.
>
> CONGRESSIONAL VIRUS: The computer locks up, and the screen splits in half
> with the same message appearing on each side of the screen. The message says
> that
> the blame for the gridlock is caused by the other side.
>
> AIRLINE LUGGAGE VIRUS: You're in Dallas, but your data is in Singapore.
>
> FREUDIAN VIRUS: Your computer becomes obsessed with marrying its own
> motherboard.
>
> PBS VIRUS: Your programs stop every few minutes to ask for money.
>
> ELVIS VIRUS: Your computer gets fat, slow, and lazy, then self destructs,
> only to resurface at shopping malls and service stations across rural America.
>
> OLLIE NORTH VIRUS: Causes your printer to become a paper shredder.

>
> NIKE VIRUS: Just does it.
>
> SEARS VIRUS: Your data won't appear unless you buy new cables, power supply,
> and a set of shocks.
>
> JIMMY HOFFA VIRUS: Your programs can never be found again.
>
> KEVORKIAN VIRUS: Helps your computer shut down as an act of mercy.
>
> STAR TREK VIRUS: Invades your system in places where no virus has gone
> before.
> HEALTH CARE VIRUS: Tests your system for a day, finds nothing wrong, and
> sendsyou a bill for \$4,500.
>
> GEORGE BUSH VIRUS: It starts by boldly stating, "Read my docs...no new
> files!"on the screen. It proceeds to fill up all the free space on your hard
> drive
> with new files, then blames it on the Congressional virus.
>
> CLEVELAND INDIANS VIRUS: Makes your 486/50 machine perform like a 286AT.
>
> CHICAGO CUBS VIRUS: Your PC makes frequent mistakes and comes in last in the
> reviews, but you still love it.
>
>
>

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Rick Zabrodski <zabrodsk@med.ucalgary.ca>
Subject: [7004] What, you need an ENGINE?: QRPTTF Air Mobile
Message-ID: <Pine.SUN.3.92.960411215647.991A-100000@ume>

I am planning
something similiar....however I will be flying a SOLAR
POWERED aircraft. My 15 meter, carbon fiber racing class German
Sailplanne, a Venuts B (contest letters VB) will be operating 20 meter
CW (sierra) and phone (cascade....I hope!)
In the foothills of the rockies at this time of the year I expect to be
able to saor for 3 to 5 hours at 3000 to 6000 feet AGL.
Hope to have an air to air contact. All of this is assuming it does not
snow on the runway and the solar gods are smiling, of course!

Oh yea....VE6GK.....the last part the locals refer to as:

"Glider King" ; -)

Dr. Rick Zabrodski BSc, MD, CCFP(E) MRO * VE6GK
Clinical Assistant Professor * NorCal 519 ARCI 7650 GQRP 8329
Faculty of Medicine, Univ. of Calgary * "Power is no substitute for skill"

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: "L. B. Cebik" <cebik@utkux.utcc.utk.edu>
Subject: [7052] Re: 40-9er power drop w/1K resistors
Message-ID: <Pine.SOL.3.91.960412195759.23730B-100000@utkux4.utcc.utk.edu>

On Fri, 12 Apr 1996, Wayne Burdick wrote:

> I finally received a rev. B 40-9er board myself, and Doug Hendricks did an
> excellent job. He and I both learned a few things about placement of RF
> chokes, though! The close proximity of the driver and final chokes may be
> the cause of the oscillation, and would explain why switching to toroids
> would cure it.
>
> One thing I haven't looked at is whether you could keep the chokes as they
> are, but simply relocate them as far apart as possible on the PC board. In
> other words, tack solder them on--don't use the existing holes. Anyone try
> this?

Has anyone tried (if there is room enough) using leads long enough to
place the chokes at right angles to each other? Sometimes, this reduces
coupling enough to prevent oscillation--but every case is a little different.
-73-
LB, W4RNL

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Steven Wilson <randyw@crl.com>
Subject: [7006] Re: Altoids holes
Message-ID: <Pine.SUN.3.91.960411222654.10837B-100000@crl10.crl.com>

Cut a small wooden block and fit it inside of the box to give it more
backing in order to drill out the box. I found it easier to drill to
size than to drill undersize and ream to fit as I normally would do on
thick metal. I also found that I had to run the drill at a faster rate.
It is not easy, but can be done. de stan ak0b

On Thu, 11 Apr 1996, Steve Miller wrote:

> Well, I have my empty boxes and one Pixie built, one Pixie to go and a 49er
> to go.
> After the first Altoid Pixie I am forced to ask how everyone is drilling or
> punching the
> holes in the soft metal box. My new twist bits just mangled the first box
> so I drilled some small holes and used a file to enlarge them. Not neat
> enough. Any machinists on the list who can suggest a tool or method so I
> don't waste any more of my precious Altoids boxes?? 73
> Steve Miller KG7PV
> Portland, Or (packet kg7pv @ k7iqi.or.usa.noam)
> Norcal # 308, QRP-L #109
>
>
>

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: cheech@med.unc.edu (Greg Young)
Subject: [7026] Re: Altoids holes
Message-ID: <9604121444.AA16497@med.unc.edu>

Steve writes:

> After the first Altoid Pixie I am forced to ask how everyone is drilling or

> punching the
> holes in the soft metal box. My new twist bits just mangled the first box
> so I drilled some small holes and used a file to enlarge them.

I've used a brad-point drill with a wood backing block to get very nice
holes in sheet metal. I haven't tried it on anything as thin as an Altoids
box, though.

Greg

Greg Young AC4YT
cheech@med.unc.edu

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: "James C. Owen, III" <owen@apollo.eeel.nist.gov>
Subject: [7033] RE: Altoids holes
Message-ID: <46309.owen@apollo.eeel.nist.gov>

In message Thu, 11 Apr 1996 19:03:25 -0700,
Steve Miller <kg7pv@teleport.com> writes:

> Well, I have my empty boxes and one Pixie built, one Pixie to go and a
> 49er to go.
> After the first Altoid Pixie I am forced to ask how everyone is drilling
> or punching the
> holes in the soft metal box. My new twist bits just mangled the first box
> so I drilled some small holes and used a file to enlarge them.

In a previous job we had undercut drill bits that worked very nicely in thin
metals but even they could grab and destroy the material. While I haven't
tried it how about using a punch like the leather punch that is used to
punch holes in belts, they usually have a number of different size dies and
should be strong enough for the tin box.

73 Jim K4CGY qrp-1 #72

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Larry East <LVE1@inel.gov>
Subject: [7029] RE: ARCI
Message-ID: <2.2.16.19960412150208.09273d2a@134.20.32.17>

I just couldn't let this go by unanswered:

>From this list alone I have read nothing but
>complaints about ARCI.
>
> -- Membership requests go unanswered.

I don't believe that this is the case 99% of the time. I have only seen 3 or
4 complaints about membership problems in the last couple of months on this
list -- not too bad out of 1000+ members. As far as a response goes, if you
want a written response to a letter to a volunteer of ANY organization, you
should enclose an SASE.

> -- The publication is hard to come by.

I assume you are referring to The QRP Quarterly. The only sure way to get
this publication is to be a member of ARCI. It is NOT sold on news stands,
but copies are occasionally available at hamfests, etc. Same goes for any
other QRP club newsletter or journal.

>
>I KNOW it's a non-profit, all volunteer organization.
>However, if you volunteer to run a lemonade stand,

>you are saying you're going to be there to serve lemonade.
>

You can have all the lemonade you want...

>AND, I will NOT feel obligated or guilty because YOU volunteer.
>

No one is asking you to feel guilty ... just for a reasonable amount of understanding and curtesy.

I think it comes down to this: "If you ain't tried it, don't knock it!"

I have been an ARCI member for about 8 years and have found The QRP Quarterly to be extremely informative and useful. In that time, I have only missed one issue and that was my fault for not renewing my membership in a timely fashion. I did have one submitted article lost, apparently due to fact that the editor at the time was involved in a divorce and his wife threw out all of his mail! On the other hand, I also had an article lost by one of the "Big Three" journals during the same time period, and another one that sat on some editor's desk for over two years and then the mag went belly-up!

In fact, I have been so impressed with the ARCI that I volunteered about a year ago to take on some of the editing tasks for The Quarterly.

If anyone would like a sample copy of The QRP Quarterly to see what it is all about, send me \$1 to cover postage and I'll send a recent issue to you (until my supply runs out!).

72, Larry W1HUE/7
ARCI QRP Quarterly Special Features Editor

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Rick Zabrodski <zabrodsk@med.ucalgary.ca>
Subject: [7051] Re: ARCI Contest
Message-ID: <Pine.SUN.3.92.960412172835.6852B-100000@ume>

See you on 20 meters. Sierra (computer controlled) and monobander at 65 feet pointed at the Yanks.

On Fri, 12 Apr 1996, chuck adams wrote:

>
> Anyone doing a single band entry this weekend?

> Waiting until you look at propagation? Let us
> know.
>
> See you there.
>
> ..
> --
> Chuck Adams (K5FO CP-60) adams@sgi.com
> Box 181150, Dallas, TX 75218-8150
>
>

Dr. Rick Zabrodski BSc, MD, CCFP(E) MRO * VE6GK
Clinical Assistant Professor * NorCal 519 ARCI 7650 GQRP 8329
Faculty of Medicine, Univ. of Calgary * "Power is no substitute for skill"

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Bob Patten <n4bp@bcfreenet.seflin.lib.fl.us>
Subject: [7057] Re: ARCI Contest
Message-ID: <Pine.3.89.9604122058.A2352-01000000@bcfreenet.seflin.lib.fl.us>

On Fri, 12 Apr 1996, chuck adams wrote:

>
> Anyone doing a single band entry this weekend?
> Waiting until you look at propagation? Let us
> know.
>
Had planned High Band, but with condx such as they are, may do 20M only...
N4BP

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Pat Taber <ptaber@logiccraft.com>
Subject: [7010] Re: CODE WORDS
Message-ID: <199604121156.HAA66713@nss2.CC.Lehigh.EDU>

>Soooooooooooooooooooo abt the code word slip! Didn't really consider the
>integrity issue or recall the post "not to disclose" the "C WORD".

Integrity issue? You mean someone might use the disclosed codeword to get an

undeserved QSL which can then be converted into cash at millions of locations nationwide? Someone may use it to claim an undeserved DXCC/Beacon endorsement and thus become famous and make the rounds of the daytime talk shows?

Get grip. If there's anyone out there who thinks copying a beacon is **so** important that unscrupulous folks would do anything to get that secret code word, they should seek professional help now.

>>>==>PStJTT

```
=====
Patrick Taber                      Email: ptaber@logiccraft.com
Principal Software Engineer        Phone: (603) 880-0300
Logiccraft Information Services     Fax:   (603) 880-7229
22 Cotton Road
Nashua N.H. 03063                 Also known as: KC1TD
```

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Chris Sieg <c_sieg@conknet.com>
Subject: [6993] Re: DDS question and where to get parts?
Message-ID: <Chameleon.4.01.2.960411193259.c_sieg@PIEXX.conknet.com>

Hi Folks,

I was able to snag about a dozen AD7008JP-50s from someone elses allocation. So if any one needs a part or two, or is interrested in a prototype board for them, send me a e-mail.

73's
-Chris
e-mail c_sieg@conknet.com

Name: Chris Sieg WA3LDI
E-mail: c_sieg@mail.conknet.com (Chris Sieg)
From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Rick Zabrodski <zabrodsk@med.ucalgary.ca>
Subject: [7005] Re: Elusive Altoids- Canada
Message-ID: <Pine.SUN.3.92.960411221625.991C-100000@ume>

On Thu, 11 Apr 1996 penc@elan.mrwo.mcgill.ca wrote:

> Gang:
>
> I know a few of you live in Canada so here goes it.
>
> Does anyone have any suggestions as to where I may possibly find Altoids?
>
Try Walmart in VERMONT!
.....

Dr. Rick Zabrodski BSc, MD, CCFP(E) MRO * VE6GK
Clinical Assistant Professor * NorCal 519 ARCI 7650 GQRP 8329
Faculty of Medicine, Univ. of Calgary * "Power is no substitute for skill"

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Jerry <jfelts@rapidcity.com>
Subject: [7035] RE:FS MFJ9020
Message-ID: <199604121742.LAA21741@host1.rapidcity.com>

Thanks for the offers, its sold, now waiting for the money.

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Bob Patten <n4bp@bcfreenet.seflin.lib.fl.us>
Subject: [6995] Re: HAMCALC
Message-ID: <Pine.3.89.9604112121.A10655-0100000@bcfreenet.seflin.lib.fl.us>

On Tue, 9 Apr 1996 facmsa@facilities.buffalo.edu wrote:

>
> Does anyone know where I can download a copy of HAMCALC? It is a nice
> program by a Canadian ham and includes a module based on the Larry East coax
> trap article in Compendium #2.
>
It's posted for download on my LL BBS, The Brass Pounder, (954) 472-7715

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Jim Eshleman <lujce@hooch.cc.lehigh.edu>
Subject: [7031] Re: Later version of HAMCALC
Message-ID: <96Apr12.124145edt.57461-13182+35@hooch.CC.Lehigh.EDU>

Gang,

Per Larry's suggestion, HAMCALC can be had via:

ftp://ftp.lehigh.edu/pub/listserv/qrp-1/tools/hcal-15.txt
ftp://ftp.lehigh.edu/pub/listserv/qrp-1/tools/hcal-15.zip

73

Jim N3VXI

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: adams@chuck.dallas.sgi.com (chuck adams)
Subject: [7042] Re: Line Noise - No More!
Message-ID: <199604121936.TAA26083@chuck.dallas.sgi.com>

Bruce,

Thanks for you posting on your success. We've all had some problems in the area of line noise. It seems to unavoidable.

Isn't it funny? :-)) We all want to live in a subdivision where everyone is on Cable and all the utilities are buried!! But in that same neighborhood we couldn't put an antenna for love or money. Go figure. It's the 90s. Makes you wanna move to a shack in MT.

:-))

On a personal note. I was having a funny noise on 30M that hadn't been there last year. So started through the shack turning things off and unplugging things. Phyllis had bought me one of those "clappers", you know, clap twice and turn on a light across the room; this so that in the middle of the night if I went into the room I wouldn't break my neck on some piece of equipment that just might be in the floor. There is only so much space on shelves and desks (you know?). :-)) Sure enough, it was the culprit. Now how do I tell her that I'm not gonna have it plugged in?

One side effect of now having sensitive receivers for the higher bands now.

dit dit

--

Chuck Adams (K5FO CP-60) adams@sgi.com
Box 181150, Dallas, TX 75218-8150

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Mike Robinson <miker@cc.com>
Subject: [7043] Re: Line Noise - No More!
Message-ID: <9604121950.AA22349@voder.nsc.com>

Bruce,

A letter of accomadation to KG&E would be in order.

I've found that to go a long way.

```
=====
7.3 de Michael AA0UB      miker@cc.com      michael@frii.com
      http://www.frii.com/~michael
      QRP-L #126      Norcal #857      CQC #180
=====
```

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: NYOUNG@nova.wright.edu
Subject: [7059] Re: More Line Noise....
Message-ID: <01I3GWIL72D08WZDSB@nova.wright.edu>

I forgot the best part. About Dayton Plunder & Loot, that is.
I said that Cindy and I would always send our power bill check
made out to "Dayton Plunder & Loot." And they never seemed to have
trouble cashing 'em. Well, they didn't. But that's not the point.

A couple years ago, after the second son was born and Cindy was
getting tired of trying to live on my money (and the psycho/physical
wreckage that it was making of me), she went back to school and
got a professional writing certificate. That and a BFA might get
you a good job writing copy for, say, the local power hegemony.
That and a first-time paid-for write up for a computer magazine
will get you a job in the PR department of, say, the local power
hegemony. Which it did.

That's right: Cindy ended up with a job in the PR department of
Dayton Plunder & Loot. They paid her money, sent her on expensive
work-related business trips. And they never caught on.

So much for the scions of capitalism, eh?

k73

Nils

WB8IJN +c

"The television will not be revolutionized!"

Ian G. Bull Young

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996

From: GREGOIRE@endor.com (ERNEST GREGOIRE)

Subject: [6992] Re: NE-QRP Logo

Message-ID: <199604120032.UAA100516@nss2.CC.Lehigh.EDU>

>Thanks Ernie for the offer to find the club logo.

>

>Hope to work you and ALL of the NEQRP members in the "contest" on the 27th.

>

>See ya then,

>de Mark

Hello Gang, Mark,

The logo is available on disc. I'll call Dennis Marandos, who is supposed to have it and then make an attempt to get it on the QRP-L web page.

It is available to anyone, and hopefully can be down loaded from there.

de AA1IK N.E.-QRP-C. # 202 (Lead by example, It is better to)
 QRP-L member #95. (pull a string than it is to push it.)

Ernie Gregoire

RR 1 Box 221

Canaan, NH. 03741

New England QRP Club, information
available on request by sending me a
S.A.S.E. or via E-mail.

e-mail : GREGOIRE@ENDOR.COM

packet : AA1IK@WA1WOK.FN43FE.NH.USA

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996

From: GREGOIRE@endor.com (ERNEST GREGOIRE)
Subject: [7053] Re: NE-QRP Logo
Message-ID: <199604130015.UAA131361@nss2.CC.Lehigh.EDU>

>Ernest does your club have a patch (cloth) of your logo available ?
>
>I am interested in collecting QRP club patches.

Hello Gang, here is the info on New England QRP club patches.

QRP-NE Logo Club Patches:

>
>\$4.00 each, or Two for \$6.00 ppd. (No Postage Needed)
>
>Checks payable to NE-QRP Club.
>
>To:
>Bob Moeller KA1PXF
>9 Corey Lane
>Bennington VT 05201-2116
>
>(Bob says they are beautiful)

73 de AA1IK

Ernie
de AA1IK N.E.-QRP-C. # 202 (Lead by example, It is better to)
 QRP-L member #95. (pull a string than it is to push it.)

Ernie Gregoire
RR 1 Box 221
Canaan, NH. 03741

New England QRP Club, information
available on request by sending me a
S.A.S.E. or via E-mail.

e-mail : GREGOIRE@ENDOR.COM
packet : AA1IK@WA1WOK.FN43FE.NH.USA

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: N0oct@aol.com

Subject: [7040] Re: NorCal 40A / Antenna Tuner ?
Message-ID: <960412142432_468383900@emout08.mail.aol.com>

In a message dated 96-04-11 12:03:35 EDT, you write:

>If SWR is below 2:1 on the coax (11%reflected) or 3:1 (25% reflected) you
>may wish to protect the transmitter with a tuner in the coax, but not much
>more VSWR than that. If SWR is higher, fix or change the antenna! A
>well-made dipole with coax feed, cut for the CW section of 40 will probably
>stay well under SWR 2:1 in almost all field setups.
>

I realize we're going to open the "Maxwell vs. Sevick" debate again, but I beg to differ with what I think is implied in this statement. Don't get hung up about reflected power. For example, a 40 meter dipole fed with coax and used on 20 meters will have a HUGE VSWR due to the high impedance. A tuner will transform this impedance at the radio end of the feedline into the something the radio will accept without blowing the final transistor [tubes are another matter--they can take a joke]. Now, if you are a Maxwellite [I happen to be one], the portion of the power reflected from the antenna feedpoint doesn't make much difference [as long as your coax isn't very long or lossy] because it will see the tuner and then bounce back to the feedpoint of the antenna. This will go back and forth and back and forth until it is let out somewhere. Where will it go? Out the antenna and into the feedline as heat. Again, if your feedline is not too long or lossy, no big deal.

That is why you will eak a little more power out of the antenna by using twin lead rather than coax.

Theory is nice, you say, but what about results? According to a well publicized article in QST last year [maybe the year before], trying to use a coax fed 40 meter dipole on 160 meters should give a VSWR about the size of the national debt. However, I use my 40 meter dipole, fed with coax [without tying the feeders together] on 160 and have good results. Worked 12 states in one night with 5W during the last 160 meter contest [only had a couple of hours of semi-dedicated time to work the contest], and have worked Costa Rica with 100W on 160.

Not trying to blow my own horn [where is that Al Cass oil, anyway?], just saying that it *can* be done. Using a coax fed antenna on many different bands may be the only option some hams [like me] have. It isn't ideal, it isn't perfect, it may not even be recommended [particularly using the 40 meter dipole on 160], but it works, and QSO's are what ham radio is all about.

Whew! Ranting lamp is extinguished.

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: NONE <wynnt@utkux.utcc.utk.edu>
Subject: [7046] Re: Norcal 40A / Antenna Tuner ?
Message-ID: <Pine.SOL.3.91.960412170310.28288A-100000@utkux4.utcc.utk.edu>

Hmmm, DXCC and WAS on 160 with a 40 meter dipole and no tuner???

Here I thought the new Helimax AF2000-IAH antenna was just another marketing gimmick. I guess there is always something new to learn when it comes to amateur radio.:-)

-wynnt

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: "L. B. Cebik" <cebik@utkux.utcc.utk.edu>
Subject: [7054] Re: NorCal 40A / Antenna Tuner ?
Message-ID: <Pine.SOL.3.91.960412200249.23730C-100000@utkux4.utcc.utk.edu>

Why might a 40 meter dipole, coax fed, do ok on 160 meters or not? Lots of separate questions here.

1. 40 meter dipole is short and low, relative to what is optimum on 160. However, even though a full size dipole a half wavelength up would do better, short and low antennas are what a lot of hams use a lot of the time. As performance shows, they do work. That is the antenna part.
2. Coax feed with ATU: Well, coax is a feedline and will respond as the previous message noted, IF the values of R and X fit within what the ATU can handle at the shack end of the line. In the case cited by N00CT, they obviously fit. Tube or Xstr rig, the result is the same: 50 ohm ATU input to 50 ohm rig, both resistive.

But coax has higher losses than parallel line at all frequencies. Hence, system is lossy--or is it. Losses increase with frequency, and decrease as the frequency goes down (assuming the feedline materials are not driven out of range, which they are not in this case). The additional losses due to high SWR (due to higher peak currents down the line and higher peak voltages across the dielectric) are a multiplier on the basic well-match loss of the feedline for the given frequency. Parallel line has losses at MF next to nothing and at high HF not too much more. Whatever the SWR multiplier, multiplying it times next to nothing is still next to nothing (or no worse than nextdoor to nothing)--hence a good choice with an ATU and high antenna-feedline mismatches. However, good coax at 160 meters gives a quite low loss (as opposed to the sizable but acceptable loss at 30 MHz) when well matched. So the SWR multiplier

does not hurt as much in terms of total loss as it would at higher frequencies. So there is something left by way of power radiating and received.

What works here (40 meter dipole at 160 meters) might not do so well when using a 6 meter dipole on 20 meters. Same SWR multiplier would be multiplied by a much higher base line figure for the same length of coax. Oh, something would be left, but lots less than the 40/160 case. Then again, if that is all you got and it is an emergency, you try it, hoping that little bit will be enough. If it is not an emergency, then the "Is it worth the effort?" factor comes into play. Listening on your out-of-band antenna with the ATU well-tuned will tell you lots about whether it is worth sending power the other direction. Often, it is.

-73-

LB, W4RNL

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996

From: "P.F. Coppin" <coppin@freenet.hamilton.on.ca>

Subject: [7024] Re: Slipping keys, answers

Message-ID:

<Pine.SOL.3.91.960412102756.27302E-1000000@james.freenet.hamilton.on.ca>

On Thu, 11 Apr 1996, Frank G3YCC wrote:

> When I was employed in a hospital lab., until 6 years ago, we used a
> plastic type sheet to put under apparatus to stop it moving. I can't
> remember it's name, but I'm sure you could enquire locally. Also, my
> son, who is at sea most of the time, visiting such exotic paradise
> places as the Falklands, Bosnia etc (!) tells me they have place mats
> to use under their plates etc at meal times, which prevent your fish
> and chips being deposited on the person next door, when the vessel
> rolls.

> Useful?

> Cheers for now.

> -----

> 73

> Frank G3YCC G QRP 042

>

> QRP Web Page: <http://homepages.enterprise.net/g3ycc/>

>

> Packet: G3YCC@GB7HUL.#15.GBR.EU

>

Frank's son is right
go to any well stocked marine supply store that serves cruising type
boats -they have a rubbery web-like material designed to put under
plates that works great for keys - lots of other uses too!

73 Paul

```

-:-:-      PAUL F. COPPIN      coppin@freenet.hamilton.on.ca
-:  :-      -:-:-      -:-:-      VE3PFT/VA3RSI  CFH5391/MM
-:          -:  :-      -:  :-      ::      VE3PFT@VE3DTV.#scon.on.ca.na
-:-:-:-:-: -:-:-:-      -:-:-:-      -:-:-      -:-:-      VE3PFT@VE3PFT-2.#scon.on.ca.na
              -:          -:          ve3pft@port.ve3mch.ampr.org
              -:          -:          ve3pft@ve3pft.ampr.org

```

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: WD6BOR@aol.com
Subject: [7007] Re: Soldering Iron
Message-ID: <960412014006_189624702@emout10.mail.aol.com>

Bill,

I've found old 200 and 300 watt irons at electronics swap meets for from \$2
to \$5. You might start sending the reader service cards in for catalogs to
some of the surplus places also. I sometimes see them there.

I just finished up several new antennas for our club and a bunch of jumpers
for a shack remodel. The mass of the larger irons is what is needed to
quickly heat the UHF connectors without melting the coax.

Good luck and I hope this helps.

Darrel, WD6BOR

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: JEVERHART@cayman.vf.mmc.com
Subject: [7014] RE: Soldering Iron
Message-ID: <960412085118.23ee9a10@carib.vf.mmc.com>

Bill,

I know just what you're faced with. Severla years ago I was in the field for

extended periods assisting installation of remote repeaters. We needed high wattage irons for soldering the center pins on 7/8" Helix. From Sacramento, CA to Monarda, ME the best bet I've found is to look for an "old time" hardware store. Megastores only have "blister-pack" stuff that moves fast. But mom an dpop hardware stores carry the neat stuff. IO've found Unger irons in the 100 to 150 watt range with a little leg work wherever I've been.

At home I just use a high wattage soldering gun. Soldering guns used to be the rage, but I figure they're good for two things - soldering connectors and lighting cigars. Of course no one but Castro smokes thes days....

72/73,

Joe E., N2CX

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: johnmb <johnmb@nando.net>
Subject: [7016] RE: Soldering Iron
Message-ID: <Pine.SUN.3.91.960412090248.24549A-100000@bessel.nando.net>

I've actually had pretty good luck with the little propane powered pen-type irons available from Rat Shack and others. They have the additional advantage of not having to have an extention cord attached to them, and they work acceptably well for soldering PL259 type connectors (assuming you've prepped them correctly, by filing them to the brass, and pre-tinning..... which is THE secret! :-)
/john
wb5oau/4

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: wb5rue@amsat.org (Kevin Muenzler)
Subject: [7021] RE: Soldering Iron
Message-ID: <01I3G4KB0WSI00MEWK@ARWEN.UTHSCSA.EDU>

On Thursday, April 11, 1996 4:13 PM, BillCombs@aol.com wrote:
>I am trying to find a high wattage soldering iron but no luck. I understand
>that it is recommended that one use an iron of more than 100 watts to solder
>the shield on a PL-259. The local hardware, Home Depot, etc. have an 80 watt.
>Even it is \$32. I hate to think what a higher wattage would cost if I could
>find one. Any suggestions.
>
>Bill K4CPK

>
>BillCombs@aol.com

>
>

Bill,
My best substitute for a large wattage soldering iron for PL-259 connectors is a torch and a very large slot-screw driver, one with at least a half inch wide. Heat it until it is red and it is good for a minute or so as a soldering iron.

Kevin, WB5RUE
wb5rue@amsat.org
muenzlerk@uthscsa.edu

From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: Monte Stark <ku7y@sage.dri.edu>
Subject: [7030] RE: Soldering Iron
Message-ID: <Pine.SUN.3.90.960412075931.8779A-100000@vortex.sage.dri.edu>

On Fri, 12 Apr 1996, johnmb wrote:

> I've actually had pretty good luck with the little
> propane powered pen-type irons available from Rat Shack
> and others. They have the additional advantage of not
> having to have an extension cord attached to them, and they
> work acceptably well for soldering PL259 type connectors
> (assuming you've prepped them correctly, by filing them
> to the brass, and pre-tinning..... which is THE secret! :-)
> /john
> wb5oau/4
>
>

Two points that I would like to make.....

First:

I had a propane soldering iron burst into flame while using it to solder some hard line in a mountain top site. I, being of sound mind and not wanting to get too hot, threw the flaming iron to my partner, who was standing closer to the door..... He did like all good partners do at times like that and let the iron fall to the floor.....(wood floor, wood walls.... dry summer time.....)

Then the game of "football" or footiron began.....end result was that the iron made it outside and was covered with dirt. No damage to the building and that hardline is still not soldered!

So be carefull of propane irons! Always have "plan B" in the back of your mind.

Second:

If you buy good PL259's, they are silver plated and need not be filed. Don't waste money on the non-plated connectors! (But the little adaptors that let you use RG58 in PL259's need to be filed. Have never found those to be plated).

Now where did I put that bottle of propane.....?

cul,

73, Ron,

.....KU7Y.....ARCI #8829.....Monte "Ron" Stark.....
....ku7y@sage.dri.edu.....Washoe Lake, Nevada....
....QRP-L #17....ARRL....NorCal #330.....NRA LIFE.....

From owner-qrp-l@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: johnmb <johnmb@nando.net>
Subject: [7036] RE: Soldering Iron
Message-ID: <Pine.SUN.3.91.960412135225.14455B-100000@bessel.nando.net>

On Fri, 12 Apr 1996, Monte Stark wrote:

>
> Two points that I would like to make.....
>
> First:
>
> I had a propane soldering iron burst into flame while using it

Mine has functioned flawlessly for years.

>
> Second:
>
> If you buy good PL259's, they are silver plated and need not
> be filed. Don't waste money on the non-plated connectors!

For QRP levels at HF, Nickel plated brass connectors at 1/3 the cost of silver plated, are certainly not a waste of money. 15 seconds with a file removes the plating around the solder holes. Tinning the unit before assembly is the secret to getting these together without melting the coax, regardless of the plating of the connector.

Best
/john
wb5oau

From owner-qrp-l@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: "Jim Kortge, NU8N" <jokortge@tir.com>
Subject: [7050] Re: Soldering Iron
Message-ID: <1.5.4.16.19960412231848.2fcf5762@mail.tir.com>

At 05:13 PM 4/11/96 -0400, you wrote:

>I am trying to find a high wattage soldering iron but no luck. I understand
>that it is recommended that one use an iron of more than 100 watts to solder
>the shield on a PL-259. The local hardware, Home Depot, etc. have an 80 watt.
>Even it is \$32. I hate to think what a higher wattage would cost if I could
>find one. Any suggestions.

>

Bill...do a lot of nosing around at swaps, especially under the tables where the "not so nifty stuff" gets put. Two years ago at Dayton, I bought 3 Hexacon (the very best) soldering irons ranging from 150 watts to 250 watts, with extra tips, and stands, for a whopping \$3. They were in "very good" condition and had been used at the Drake factory on the lines where the early tube equipment was assembled.

Absolutely fabulous buy...and no, none of them are for sale. :-)

72...Jim

Jim Kortge, NU8N		BMHA, NorCal, QRP-L
jokortge@tir.com	__o	Cascade 17/40 SSB
Fenton, MI	_`\<,	Mizuho 17/40 SSB
... ..	(*)/(*)

From owner-qrp-l@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: "P.F. Coppin" <coppin@freenet.hamilton.on.ca>
Subject: [7023] Re: VERTICAL WIND-LOAD

Message-ID:

<Pine.SOL.3.91.960412100721.27302C-100000@james.freenet.hamilton.on.ca>

On Thu, 11 Apr 1996, Monte Stark wrote:

> Hi Dave,
>
> I guy all my verticles with bailing twine. It is easy to
> get if anyone around you grows hay and it will last
> a few years.
>
> I really can't say how much bending is OK, but when it goes
> till it breaks, it's too late to guy!
>
> cul,
>
> 73, Ron,
>
>KU7Y.....ARCI #8829.....Monte "Ron" Stark.....
>ku7y@sage.dri.edu.....Washoe Lake, Nevada....
>QRP-L #17....ARRL....NorCal #330.....NRA LIFE.....
>
>

Hi guys:

Some info on guying which may be of assistance:

Make sure the antenna is mounted vertically, use a level if necessary to ensure that. Check the manufacturers specs - most commercial verticals are built to sustain a significant windload, but like a fishing rod, the load is intended to be spread over the entire antenna. This is where guying can get you into trouble. For example, the instructions for my Butternut HF-2V (super antenna, needs radials tho) recommend guying no more than 10 feet off the ground, ie, 1/3 the vertical height, and only if needed for shearing winds that may exceed the rating. When I need to guy it, and its not often, I use 3-4 mm nylon cord (the type used for outboard motor pull starters -excellent for all kinds of antenna work!). Do not tighten the guys drum tight! just snug em up firmly. You do not want to put the antenna into compression - it assumes an S shaped curve and will fail easily!

Also, make sure the base mount is secure. This provides the fulcrum point into which all of the load forces ultimately act. Make sure its in good mechanical shape, nuts and bolts tight etc. These types of antennas depend on the mechanical integrity to stay up.

Now you know what us sailors are REALLY thinking about on those hot

summer nights - can I keep it up!

73s de Paul VE3PFT

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-:-:-      PAUL F. COPPIN      coppin@freenet.hamilton.on.ca
-:  :-      -:-:-      -:-:-      VE3PFT/VA3RSI  CFH5391/MM
-:          -:  :-      -:  :-      ::      VE3PFT@VE3DTV.#scon.on.ca.na
-:-:-:-:-:- -:-:-:- -:-:-:-:- -:-:- -:-:-:- VE3PFT@VE3PFT-2.#scon.on.ca.na
          -:          -:          ve3pft@port.ve3mch.ampr.org
          -:          -:          ve3pft@ve3pft.ampr.org

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From owner-qrp-1@LEHIGH.EDU Fri Apr 12 22:11:46 1996
From: ae4ic@nr.infi.net (BOB KELLOGG)
Subject: [6999] Re: VXO Research
Message-ID: <199604120222.WAA28017@mh004.infi.net>

Hi Bill,

>The question that always comes to mind is how does one tell when the crystal
>is no longer in control and the VXO becomes an LC oscillator instead? I
>suspect there may be a sudden jump in frequency when that happens but I'm
>not sure. Would anybody care to enlighten me on this?

I just did that with my 49er by putting too much L in the circuit. It was
oscillating low, from about 7.031 to 7.039. When I removed the surplus L,
it jumped back up to about 7.038 to 7.042

CUL,
Bob Kellogg, AE4IC
Prolably, but not nececelery. - Benny Hill